OCCIDENTAL
MEDICAL TIMES

EDITED BY
JAMES H. PARKINSON.

WITH THE COLLABORATION OF

Wallace A. Briggs, Sacramento.
Wm. Ellery Briggs, Sacramento.
W. R. Cluness, Sacramento.
W. Watt Kerr, San Francisco.
J. F. Morse, San Francisco.
Henry Gibbons, Jr., San Francisco.
Thos. W. Huntington, Sacramento.
G. L. Simmons, Jr., Sacramento.
Albert Abrams, San Francisco.
A. W. Hoisholt, Stockton.
Geo. B. Somers, San Francisco.
G. F. Shiels, San Francisco.

VOLUME VI—1892.

SACRAMENTO:
D. JOHNSTON & CO., PRINTERS,
410 J STREET.

UNIV OF CALIF
MEDICAL SCHOOL

Occidental Medical Times

VOL. VI. JANUARY, 1892. NO. 1.

AN ADDRESS

Delivered to the Graduating Class of Cooper Medical College, December 4, 1891

By R. H. PLUMMER, M. A., M. D., M. R. C. S. (Eng.), Professor of Anatomy, Cooper Medical College; Chief of the Surgical Clinic and of the Genito-Urinary Clinic, Cooper Medical College Dispensary, San Francisco, Cal.

Ladies and Gentlemen: There seems to be a sort of glamor thrown around commencement exercises, which afford pleasing entertainments for the audience and for the participants; but the graduating exercises of medical colleges are fraught with surpassing interest, because of the greater importance of the occasion to the two parties most interested therein.

On the one side are these young aspirants for medical honors, soon to present their claims for recognition in the field of practice. Hitherto they have been directed and supported in their professional work by the faculty; but to-night this relationship is to be severed, and to-morrow each must boldly launch his professional bark upon the sea of public favor and himself assume the helm. When clouds of doubt hang over the diagnosis and obscure the lines of treatment, he can no longer refer the case to the Professor, and thus shirk the responsibility. He must be prepared to meet all emergencies, and determine to stand or fall by the results of his own work.

He cannot repress the thoughts that come as he reviews the past and recounts the years of arduous toil, and the expenditure, in this preparation for a life work. Meditatively he peers into the future, and the phantom "Failure" looms up in the background of the picture. No wonder, then, that he soliloquizes: "Has this expenditure of time and money been wisely made? Have I received a *quid pro quo* for all I have given? Are my attainments such as will entitle me to the confidence and support of the public in my professional career?"

On the other side is this intelligent audience, representing the public, who view the exercises from a different standpoint. They realize the mutations that time brings, and feel that ere long they may be led to select a medical attendant from this same class; and involuntarily the lines of Pope come to mind:

> "A little learning is a dangerous thing;
> Drink deep or taste not the Pierian spring.
> There shallow draughts intoxicate the brain,
> And drinking largely sobers us again."

4835

They closely scan each individual as he mounts the platform to receive the long-coveted degree Doctor of Medicine, and, with an eye to their own interest, they ask: "Are these embryo-physicians competent to act as guardians of the public health? Have they been properly trained by those who had the developing of their plastic minds and the molding of their professional characters?"

To determine the value of the present method of medical education, a review of its status in the past is necessary; and to estimate the efficiency of the work done in this institution it must be compared with that done elsewhere; but in the time allotted to an address on this occasion only a brief synopsis is possible.

The genesis of disease is coëxistent with the human race. On that beautiful island in the Indian Ocean, immortalized by Bishop Heber in song—"the spicy breezes blow soft o'er Ceylon's Isle"—is a range of mountains known as the Pedra-talla-galla. In one of the many valleys in this range, away from the burning heat of the coast, is Kandy, the ancient capital of Ceylon; and a little higher up is Newera Ellia, the great summer resort of jaded Europeans. Near here may be seen one of the loftiest peaks of this range, which is popularly known as Mount Adam. The natives have a tradition that Adam was buried on the sunny slope of its base, and they called it the tomb of the father of the human race.

Doubtless the healing art is equally ancient; for, since we know that instinct leads the wounded doe to seek repose in the shady dell, or bathe its feverish body in the cooling waters of the lake, it requires no stretch of imagination to see primitive man making the observation that a condition of perfect rest greatly diminishes the pain consequent on a fractured bone; and in his efforts to secure that condition to bind a piece of bark or twig to the limb. The same faculty would lead him to observe that moist applications render an open wound more comfortable; and, in the absence of the more elaborate methods of to-day, should he make application of a green leaf he would find it soothing; and if, on some particular occasion, that leaf should be taken from an anodyne plant, as the poppy or stramonium, he would recognize the greater relief, and note the fact. But our knowledge of the status of the healing art during the prehistoric period is necessarily limited, for man possessed no means of perpetuating the information thus acquired save by tradition; and it is evident that much of it must have been lost with those in whose brains it had been garnered.

The first regularly organized medical school, of which we have any knowledge, was established by Chiron, of Grecian mythology, in a grotto at the foot of Mount Pelion, during the thirteenth century B. C. We are told that medicine, surgery, botany, and music were taught in that school; and we wonder what part music played in a medical education. We learn that Æsculapius, the reputed son of Apollo and Coronis, was a student of Chiron, and that he greatly distinguished himself as surgeon-in-chief of the expedition of the argonauts in search of the Golden Fleece. One of his chief medicinal agents was said to be composed of wine, meal, and scraped-cheese; but we are told that he also used songs, dances, incantations, and amulets in the treatment of disease. This practice has been handed down through intervening ages, and is perpetuated in the nineteenth century by the "Devil Dancers" of Ceylon, the "Vaidhyas" of Hindoostan, and the "Howling Dervishes" of Egypt. And who can say it has not contributed something toward a cure in certain forms of nervous disease?

> **"Canst thou not minister to a mind diseased;**
> **Pluck from the memory a rooted sorrow;**
> **Raze out the written troubles of the brain,**
> **And with some sweet, oblivious antidote**
> **Cleanse the stuffed bosom of that perilous stuff**
> **Which weighs upon the heart?"**

The ancient Greeks believed that all medical knowledge was concentrated in Æsculapius, and they deified him about 50 years before the siege of Troy, in which his two sons, Machaon and Podalirius, also students of Chiron, greatly distinguished themselves as surgeons. Many temples were then erected to his memory, to which the sick and afflicted resorted for medical, as well as spiritual, treatment. His disciples formed a priesthood called Asclepiadæ, who officiated in these temples, thus intimately blending the teaching of medicine and religion. Upon entering the temples they were required to pass through an extraordinary ceremony of initiation, taking an oath which required them to teach the healing art only to their successors. But other persons besides these priests practised medicine at that time, and some of them were probably specialists, for one part of the oath reads: "Furthermore, I will never cut for stone, but will leave that operation to men of that occupation."

On the southern declivity of the Acropolis, in the city of Athens, are the remains of a once magnificent building, which tradition says was the temple where Æsculapius taught medicine. It represents a room 65 feet wide by 150 feet in length, with a seating capacity of about 2,500. The remnants of its walls and floors consist of blocks and slabs of Pentilican marble, while here and there are the broken remains of once beautiful columns of the same material. On one side is a marble platform about a foot high, from which he was supposed to have delivered his lectures. In the northeast corner of the space is a bubbling spring of pure sparkling water, of which the thirsty traveler is invited to drink, with the assurance that it once supplied similar wants of the famous healer. The invitation is usually accepted, though the memory may be tinged with a vein of sadness that it brings no inspiration.

Many schools of medicine were subsequently established, which flourished during the life or popularity of their founders. One of these was established at Crotonia during the sixth century B. C., by Pythagoras, who had traveled extensively in foreign lands, and was thought to have learned about all there was of human knowledge.

But little progress was made in the healing art until the time of Hippocrates, a lineal descendant of Æsculapius, seventeen generations removed. He was born on the Isle of Cos, about 460 years B. C. He was the first among the ancients to leave any considerable amount of medical literature; and he was also the first to segregate the teaching of medicine from that of religion and philosophy, and to establish it as an independent school; hence he has been called the "Father of Medicine." But as the kindred enterprises of his ancestors were overshadowed by, and succumbed to, a want of accurate knowledge in the departments of anatomy and physiology, so the current of his success was stayed; and when the inspiration of his presence no longer sustained the school he founded, the evolution of new theories developed factions in the profession, and amidst the sharp rivalries that followed, it became but a memory to be revived by Galen five hundred years later.

There is but little to say in behalf of the many schools which followed. The chief aim and object of some of them seemed to be to create a royal road into the profession, to render the study of medicine easy, and to make its practice acceptable to the most fastidious. Trallianus, one of the prominent figures of his time, boasted of his ability to teach the whole art in six months; and he seems to have had many followers in the nineteenth century.

Though Greece occupies a prominent page in the history of the healing art, there is no doubt that much of her learning was borrowed from ancient Egypt. The tombs of the kings and queens at ancient Thebes, on the banks of the Nile, date from the dawn of civilization. They were constructed by the different dynasties for the purpose of urning the dead, and preserving the contemporaneous history of the country. More than forty of them have been discovered, and caused to yield up the wealth of their buried records, to the admiration of scientists of the nineteenth century. They are all constructed upon the same general plan, consisting of long inclined passage-ways excavated out of the solid rock in the side of a mountain, with halls and chambers penetrating here and there in different directions. Let us hastily explore one:

Our footsteps are lighted by tapers provided by the guide, and we descend a stairway 24 feet in the perpendicular, and 29 feet in the horizontal. To this succeeds a passage-way 18 feet in length, 9 in width, and about 8 in height. Then we descend another stairway 25 feet in depth, where we find a chamber 12 by 14 feet. From this a passage leads to another room 14 by 17 feet, which is succeeded by another 26 feet square, the roof of which is supported by four columns carved from the original rock. Both walls and columns are decorated with highly finished and well preserved sculptures, in colors so vivid that they seem as but of yesterday. Other stairs and passage-ways lead to halls and rooms further on, until we reach the grand hall, which is 27 feet wide. Its roof is supported by six columns of solid masonry, and it terminates in a grand salon 19 by 30 feet. Its cerulean vault is thickly studded with stars, and the walls and pillars are emblazoned with legends commemorative of the chief contests and victories of the illustrious monarch whose remains were deposited therein. The total length of the tomb is 470 feet, and the total depth 180 feet.

Were we to form our estimate of the status of the healing art in ancient Egypt' solely by the proficiency of the Egyptians in embalming their dead, we should entertain no mean conception of their attainments. We learn there were three grades of embalming: the first, destined only for royalty, is said to have cost a sum of money equal to $1,200 in our currency; the second, permitted to the descendants of the royal family and to high priests, cost about $300; and the third, free to any who desired to indulge that fancy, at a mere nominal sum. In the Boulac Museum at Cairo are the mummified remains of several of the royal families recently exhumed, some of which are in such a state of preservation that the nails, the hairs of the head, and even the eyebrows and eye lashes are plainly to be seen. The best preserved of all are the bodies of Rameses II, the Biblical Pharoah, and Sethi I, his father; but there is also shown the fairly preserved mummy of a priest who is said to have lived 5,600 years B. C. In the Museum of Cooper Medical College may be seen a mummy recently secured at Thebes, which Egyptologists tell us, from the hieroglyphics on the casket belongs to the middle class, and represents one of the female descendants of a royal family who reigned in the thirteenth century B. C.

The study of anatomy so languished in the lap of bigotry that little progress was made in this department until the establishment of the famous school at Alexandria, about 320 years B. C. This school was under the protection and patronage of the Ptolomies, who were noted for their love of learning. The professors were supported at the public expense, and every encouragement was given to do the best possible work. Here the healing art was first divided into three sections, viz.:

Dietetics, Internal Medicine and External Medicine. Hitherto it had been treated as a whole, and the practitioner who was deficient in either medical or surgical knowledge was likened unto a bird with one wing. Dissection of the human body for anatomical purposes was legalized here for the first time in the history of the world, and it was said that Herophilus, Professor of Anatomy in this school, dissected more than 700 bodies. So earnest and enthusiastic were he and Erasistratus, in prosecuting physiological researches that they were charged with opening the bodies of criminals while yet alive. Many of these stories may have been greatly exaggerated, for that feeling of aversion to dissection, born of superstition and fostered by education, still prevailed in the minds of the populace to such an extent that the anatomical and physiological researches made by these professors excited such public indignation as to require the strong arm of arbitrary power for their protection. This feeling was so intense and persistent that after the death of these great men and their protectors the law was revoked and human dissection forbidden. But the name of Herophilus will live as long as anatomy is taught, for it has been indelibly affixed to the crucial depression on the inner surface of the occipital bone, as the torcular Herophili.

The next prominent figure in the early history of medical education was Galen, who was born A. D. 131, at Pergamus, a city which ranked second only to Alexandria as a seat of learning. Having received all the instruction the schools of his native city could impart, he went to Smyrna where he attended the lectures of Pelops, and thence to Alexandria to continue his studies in anatomy. The only human skeleton then in existence was in this school, and thus he found an excellent opportunity to study osteology; but his practical dissections must have been confined to bodies of apes and asses, unless he prosecuted them clandestinely. Indeed, members of the ape family do not make bad substitutes for human bodies in the study of anatomy, as may be verified by inspection of skeletons in the museum of Cooper Medical College. The average valedictorian finds only stones to throw at Galen; but much may be found in his character to admire, and in his career to commend. The diplomatic skill displayed in molding to his own will the great mass of wrangling spirits then constituting the profession, and the courage evinced in thus attempting, alone, to correct the errors of a world, should challenge the admiration of all; and that untiring industry which enabled him to accomplish his self-imposed task, is surely worthy of all commendation.

He came into the medical world at a time when strife and discord were rending the profession. Factions had established rival schools which, at the expense of professional courtesy, they were struggling to support, and he at once assumed the herculean task of rectifying these dissensions. He revived and established the principles and doctrines enunciated by Hippocrates more than five hundred years before, and contributed many new facts and theories deduced from his own observations. He defined medicine to be: "An art which teaches how to preserve health and cure disease;" and he defined health to be: "The perfect performance of all the functions of the animal economy." He described three conditions of the human body, viz.: "Sound, unsound and neutral," and said: "Disease begins where the variations become so great as to interrupt the functions." In his efforts to correct current errors he wrote upon almost all subjects connected with medicine; and of the numerous books attributed to his authorship eighty-three have been adjudged genuine. Those on anatomy and physiology were considered the most important, and they were translated and used as text-books in the schools of nearly all the civilized world until after the time of Mondini, Professor of Anatomy in the school at Bologna, who dissected two human bodies before his class in 1315, A. D., the first time this had been done since the time of Herophilus. He was so successful in his efforts to reform the teachings and practices of the day that the different schools then in existence gradually declined, and the entire medical proession became a school of Galenites.

During the early Christian era the popular feeling was so intense against human dissection, because of the belief that the body was to be raised in the flesh after death, that Pagan teachers were expelled from the Roman Empire, and their schools closed. Nestorious, Bishop of Constantinople, A. D. 429, invoked the aid of the civil authorities to assist him in driving the heretics from the empire. Though the "mills of the gods grind slowly," retributive justice held the balance in which he was finally weighed and found wanting, for he, too, was banished. His followers, called Nestorians, established a school of medicine at Edessa, in Mesopotamia, which became renowned as a seat of learning, drawing many students from surrounding countries. Clinical medicine was here taught in a public hospital, supposed to be the first one established for that purpose in the history of the world.

Another medical school was established at Bagdad during the eighth century, which became so popular that, it is said, more than 6,000 students were in attendance at one time; and yet not one human body was ever dissected there for anatomical purposes. In 802 Charles the Great established a medical school at Salermo, which prospered greatly during many centuries. Its pupils were received from the laity, and among them were many females, some of whom attained considerable distinction. This was the first school authorized by law to confer the degree of "Master," or "Doctor of Medicine." In 1229 Emperor Frederick II published a decree to the effect that all who desired to qualify themselves to practise medicine in a local habitation should first take a three years' course in physics, and then a five years' course in medicine and surgery; after which they should serve a term of apprenticeship under an older physician before permission would be granted to practise independently.

But it is not to be inferred that all who essayed to practise took this extended course. There were some who were known as "students" or "traveling doctors," who went from place to place, frequently taking a side-show with them to attract public attention. They posed as "herb," "cancer" or "hernia doctors," and workers of miracles in general, much as do some of our degenerate "specialists" of to-day who ply their nefarious trades in elegantly furnished parlors. They send out boys of tender years, poverty stricken men and drunken wretches, with printed circulars, advertising cards and obscene pamphlets, to distribute upon the streets and in our places of business. Even the family circle is not sacred from their polluting advertisements in the columns of the daily press. Through such mediums the young are allured into "museums of art," where they see pictures of loathsome diseases, magnified under the calcium light of heated imagination. Sometimes these self-styled doctors travel from place to place, with an advance agent, delivering lectures upon medical subjects; and at the close of the lecture an invitation is extended to the public to visit their parlors, where "consultations are free for a few days only"—"aye, springes to catch woodcocks."

In the early part of the eighteenth century the celebrated Dutch physician, Boerhaave, became a prominent figure in the medical world. He graduated at the University of Leyden, where he subsequently held the professorship in three departments of medicine. He possessed that degree of culture and suavity of manner which rendered him at once an eminent and popular physician. He wrote much upon medical topics, and when he died, left a handsome volume, the title page of which declared it contained all that was then known of the healing art. When the book was opened it was found to contain this simple line: "Keep the head cool, the feet warm and the bowels open." The other pages were all blank. In these brief words he thought to sum up the result of therapeutical research since the dawn of creation, and to formulate it into the best method of practice, viz.: to tranquillize the nervous system, to equalize the circulation, and to promote the regular and normal function of the intestinal canal.

The history of American medicine antedates us but little more than a century, notwithstanding this continent has been settled by Europeans nearly 400 years. The early settlers occupied a narrow strip of country along the Atlantic sea coast. In front of them was the Atlantic Ocean, and behind, a vast unexplored territory stretching far away to the Pacific

Ocean, inhabited only by the native Indian, with his "medicine man," whose life frequently paid the penalty for the death of a patient. The pressing necessities of the times left them but little leisure in which to cultivate the arts and sciences. It was a continuous struggle for existence against wild beasts of the field, savage tribes of the forest, and insidious diseases incident to life in a new country. Much of the learning they did acquire was by the flickering light of a pine knot; and while it may not have been deep, it was at least comprehensive.

Many of the high places in political, as well as in professional life, were filled by those sturdy sons of illustrious sires. When clouds of oppression thickened over the thirteen colonies, the lightning of self-made eloquence flashed in the council chambers of the nation; and the thunder tones of old liberty bell, breaking upon the mountain crags, were echoed across the Atlantic, and America was free! Benjamin Rush signed the Declaration of Independence, and rendered essential service as surgeon in the Continental army. Joseph Warren delivered an eloquent address on the anniversary of the Boston massacre, and fell upon the field of Bunker Hill, fighting for American independence. From this type of men was built up the medical profession on the Western continent. They could till the soil at home, amputate a shattered limb on the field of battle, or deliver an oration over the dead body of a fallen comrade.

There were no medical schools on this continent until the last decade of the colonial period; and there were then only 350 practitioners of medicine, less than 200 of whom were graduates. Prior to this period, and in some measure during many years after, the medical student received his professional training from a practitioner of some repute, who took him into his office and essayed to teach him the mysteries of the healing art. Here he had the benefit of his preceptor's library, and perchance of a human skeleton, or a part thereof. His opportunities for clinical studies were at first limited to witnessing and assisting in office practice. Here he learned to pull teeth, apply blisters and cups, open abscesses and perform venesection. Later he was permitted to accompany the preceptor in his visits to private patients, where he could observe the protean phases of disease; and the clinical lectures consisted of the preceptor's "talks" as they went from house to house, or on the ride home. After a term of two or three years of this sort of apprenticeship the student was supposed to have acquired sufficient medical knowledge to warrant him in commencing practice independently. The exigencies of some remote and growing community then offered the opportunity, and thus the embryo-physician began his professional career.

As a physician became eminent in practice and popular as a teacher, students presented themselves in greater numbers, until finally his clinical teaching, instead of consisting of the private talks that served to while away the tedium of long rides, was presented in the form of lectures, in his private office; and thus his teaching became the nucleus of a medical school. The first course of such lectures of which we have any knowledge was delivered in Philadelphia, some time prior to 1751, by Dr. Cadwalader. As the demand grew, some of the most popular teachers in the city or vicinity associated themselves together for the purpose of imparting instruction. A systematic course of lectures was organized by John Morgan and William Shippen, of Philadelphia, which resulted, in 1765, in the establishment of the first medical college on the Western continent, now the medical department of the University of Pennsylvania. This was followed two years later (1767) by the organization of King's College, now the College of Physicians and Surgeons in the city of New York. John Warren, brother of Joseph, who fell at the battle of Bunker Hill, rendered excellent service as surgeon in the Continental army; and in 1780 he gave a course of dissections, which resulted, in 1782, in the organization of Harvard Medical School, in which he was made Professor of Anatomy. The degree of Bachelor of Medicine was first conferred in Philadelphia in 1768; and that of Doctor of Medicine in New York in 1770.

As the number of physicians increased a spirit of emulation and rivalry ensued, which resulted in the organization of new schools; but the number did not exceed six until after the year 1800. During the next quarter of a century the number increased to seventeen, and to-day we have more than one hundred and thirty organizations essaying to teach medicine. In the earlier schools the branches taught were few in number, the terms were short and the best of them required only two courses of lectures to graduate. Many recognized a limited number of years spent in practice as equivalent to one course of lectures; and thus a few who had started in practice from a preceptor's office were enabled to attend a single course of lectures and become graduates in medicine. But as the number of students increased the rivalry between the schools resulted in better work being done. Libraries, museums and laboratories were added, departments subdivided, terms lengthened, hospitals utilized for clinical purposes, and professors multiplied. This evolution is still in progress; the laity and the profession are demanding higher educational qualifications, and the better medical schools, in response to that demand, are gradually elevating the standard. From a curriculum of two years the requirements were increased to three years' study, and two courses of lectures. This was supplemented by another advance, making attendance upon three courses of lectures necessary to graduation.

Cooper Medical College was among the first to thus increase the curriculum. In 1879 the Faculty adopted a rule requiring three courses of lectures of five months each; and then added the requirement of a matriculation examination. In 1886 another advance was made requiring attendance upon one winter course of sixteen weeks, in addition to three summer courses, thus practically making four courses necessary to graduation. In 1890 the Faculty announced that it had lengthened the summer term from five months to six months; and at the same time earnestly recommended the student to take four years for study instead of three. With the greater amount of knowledge now demanded of the student, and the increased labor annually imposed upon him, this recommendation will necessarily be added to the requirements in due time. In earlier days some of the best colleges were organized with a teaching corps of not more than five professors. Cooper College now has a teaching corps of twenty-six professors and assistants, who, besides devoting thirty hours a week to didactic lectures and demonstrations, give eighteen hours a week to clinical work.

These clinics are conducted at the City and County Hospital, which has nearly 500 beds, accommodating from 4,000 to 5,000 patients annually; and at the dispensary connected with and supported by this college for the last twenty years, where more than 10,000 visits are annually made by the needy poor, who receive treatment free of charge. Here students are brought into direct contact with patients, thus securing an opportunity to familiarize themselves with the various forms and phases of disease. All members of the senior class are required to examine patients, diagnose disease, prognosticate its course, and prescribe suitable treatment. This is done in the presence and under the supervision of the Professor or Clinical Chief, and subject to his criticism. Errors in the method of examination, conclusions drawn, or treatment prescribed, are pointed out, and corrections made. In addition to this practical training and valuable experience, opportunities are presented immediately after graduation to serve as internes, or house surgeons in the hospitals.

The Royal College of Surgeons of England has announced in its calendar that Cooper Medical College of San Francisco is one of the seven American medical colleges whose work is recognized by that institution; and that it accords to our graduates and students who take the special matriculation examination provided for in our curriculum, all the privileges accorded students in Great Britain for the same amount of work. This is a recognition of merit which will carry honor with it wherever the English language is spoken.

It has not been many years since a few resolute women first knocked at the door of the medical profession in the United States; and they were told it was an innovation for females to essay the role of medical students. But history shows us, "through the long vista of a thousand years," that women successfully competed with men, in the great school at Salermo; and that 3,000 years ago the two daughters of Æsculapius —Panacea and Hygeia—were worthy competitors in the field of practice, where they won undying fame. From the name of the one we have our word "panacea"—cure-all; and from the other our word "hygiene" —health. It is with unalloyed pleasure that the faculty of this college bears testimony to the moral and intellectual excellencies of its female students. In the years which have passed since they were first admitted to the lectures upon terms of equality with men, it has not been found necessary to offer a word of reproof for moral obliquity or want of industry.

Members of the graduating class: To say we congratulate you upon the exalted position you have this night attained is orthodoxical; to say we commend you to the grace of the good people here assembled is paradoxical; and to attempt to give you further counsel, after three years instruction, you may think heterodoxical; but knowing well that when the curtain shall fall upon this scene to-night, it will be to rise upon a very different one to-morrow, we cannot refrain from giving you a parting word. As we have realized in the past that the success of our college depended upon the efficiency of the work done by the faculty and the teaching corps, so we now realize that its future reputation, in a measure, is in the hands of its graduates; and this we cannot too earnestly impress upon you. Therefore, as you prize your own honor, so guard with jealous eye the reputation of your Alma Mater.

The calling you have chosen is one that tries the souls of men, so closely do the shadows follow the sunshine. Your duties will call you into the mansions of the rich, where all the comforts and luxuries that cultivated taste can suggest, or unlimited means purchase, are at your command; but they will also call you into the squalid haunts of poverty, where filth and pestilence, ignorance and vice reign supreme; and where neither hope of recompense, nor recognition of charity await your coming, or cheer your going. The soldier, trained to brave the dangers of the battlefield, is marched to the front under inspiring strains of martial music; the bugle's call, the beat of the drum, the booming of cannon, and the cheering of companions, all conspire to urge him on to the conflict. But the physician is schooled to brave, in silence and alone, every shaft of disease and death that lurks in the miasm of contagion, often wending his way under cover of impenetrable darkness in his efforts to restore the sick, alleviate the suffering, or soothe the dying. He is taken into the inner chambers of domestic life where the follies of youth, the errors of mature years, and the indiscretions of ripe age are all confided to his professional ear; and that confidence should be as effectually sealed within the ventricles of his memory as is that confided to the priest within the confessional.

To this high standard of intellectual excellency, moral integrity and professional fidelity, we commend you. You have long been climbing toward that summit where the first honors which crown successful work in medical study awaited your coming; that part of your toilsome journey has been completed, and these honors are now yours. Like the traveler in the Himalaya mountains who, having gained the summit of Darjeeling Pass, sees below him an hundred inviting realms of prosperity extending down to the base of the mountain, and stretching away across the fertile plains of the Holy Ganges; so you now behold before you the wide world of suffering humanity in whose service henceforth you will engage. The diploma, which gives you license to labor in this field, imposes upon you the weightiest obligations to do the best possible work—work that the world will approve; and, above all, work that will receive the approval of your own conscience. Longfellow says:

> "The heights by great men reached and kept,
> Were not attained by sudden flight;
> But they, while their companions slept,
> Were toiling upward in the night."

If the enraptured tourist, looking off into that grand vista below, imagines for a moment that he has reached the summit of the mighty Himalayas, let him turn, and, from Mount Sinchal, in the clear, sharp, frosty air of the early dawn, cast his eyes upward until they rest upon the crests of the Kinchinjunga, 28,000 feet high—those sentinels of Time, in their priestly robes of eternal snow, beckoning him onward and upward; and still further on to the white-turbaned peak of Mount Everest, more than 29,000 feet high—nearly five and one-half miles above the level of the sea—and then he may realize the grandeur of the possible achievements still open to ambition. And so we invite you, from the enviable position you have this night attained, to cast your eyes upward until they rest upon the exalted professional eminence attained by him whose name your Alma Mater bears. Though the light of his life went out on the altar of his profession at high-noon, his name is engraved in the everlasting rocks over the portals to this noble edifice, dedicated in memory of his devotion and his achievements; the lights in the windows "from this proud temple's height" invite you to come; and Southey has pointed the way:

> "My days among the dead are passed;
> Around me I behold,
> Where'er these casual eyes are cast,
> The mighty minds of old.
> My never-failing friends are they,
> With whom I converse day by day."

TUBERCULOUS AFFECTIONS OF THE KNEE AND ANKLE JOINTS.

By T. W. HUNTINGTON, B.A., M.D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal.

Read before the Sacramento Society for Medical Improvement.

A discussion of tuberculous infection of joint structures must, for obvious reasons, be general in character. Special joints have been designated in the title of this paper for the sole purpose of enabling certain methods of treatment to be developed.

During the past decade, bacteriologists have made many additions to our exact knowledge of the history and pathology of tuberculous diseases. Systematic experimentation among various species of lower animals has cleared up many doubts. The results of this research have, in the main, been verified by observation and experience in dealing with the human family; and, in the language of the most recent writer upon this subject: "During the past fifteen years there has been more real advance made in surgical pathology than during the twenty centuries preceding them."

For many years certain forms of joint disease, notably the so-called strumous and scrofulous, were vaguely thought to bear an intimate, though unexplained, relationship to tubercular infection. The writings of several early authorities contain wonderfully accurate descriptions of tuberculous diseases of joints, in their various stages. For more than a century experimenters have at different times succeeded in producing, by implantation, a condition analogous to that now recognized as tuberculous. In fact, a majority of the more important clinical and historical features of these affections seem to have been correctly interpreted then as now. At that time there was not, nor could there have been, any clearly conceived plan of pathological inquiry, nor any theory which would satisfactorily explain many phenomena that were of frequent occurrence. Aside from knowledge derived from purely subjective manifestations, opinions rested upon little else than empiricism, and, in consequence, teachers and authors dealt largely in dogmatic doctrines. An example of the difficulties which beset the observer is found in such perplexing queries as the following: Whence was the origin, or what the source, of the *materies morbi?* Why, in a phthisical patient, should the specific infection be transmitted from its original focus to a remote part, as a bone or joint cavity, and intervening tissues apparently enjoy perfect immunity from inoculation? Why should there occur in an otherwise healthy subject a form of degenerative joint disease which, in its clinical history and consequences, is closely identical to another case, where there was a preëxisting strumous or scrofulous cachexia, or in connection with advanced pulmonary tuberculous lesions? Or why, in two subjects similarly circumstanced, should a trivial joint injury in the one be followed by that peculiar, much-dreaded degenerative change, fatal alike to the integrity of the part and the general welfare of the patient, while in the other there was immediate and perfect repair?

It was upon this chaotic, well-nigh discouraging state of affairs that Koch, in 1882, shed the first ray of enlightenment by his discovery of the tubercle bacillus; a discovery which, furnishing as it certainly did, a key to an intimate knowledge of the most fatal of the diseases which afflict the human race, must be regarded as second in importance to no other in the history of medicine and surgery. It is a significant fact that in his first communication on tuberculosis, Koch stated that he had detected tubercle bacilli in the tissues of several strumous joints. Other observers followed with evidence which fully confirmed the correctness of Koch's position; and to-day it is conceded that every tissue of the human frame is subject to invasion and destruction by this arch enemy.

The scope of this paper does not justify a recital of the great number of experiments which have recently been published, and which throw much light on this subject. A brief review of some of the results obtained will, however, be of interest. In these researches the usual method of dealing with the lower animals has been by inoculation, first, with tuberculous pus or other animal tissue, and second, for purposes of verification, with pure cultivation bacilli.

The specific germ may enter the system through various channels. By far the commonest method of invasion is through the respiratory organs, as is evidenced by the frequent occurrence of pulmonary tuberculosis. The mucous membranes generally are peculiarly susceptible to this form of inoculation. Infected pus taken into the stomach has provoked in some cases tubercular ulcers of that organ and of the intestine; in others, specific infiltration of peritoneum, the mesenteric glands and the internal organs. Characteristic skin lesions have followed pure culture inoculations, and in man similar affections have resulted from accidental inoculations with tuberculous pus. From these single foci nearly every form of local or constitutional tuberculous manifestation has been traced. Again, pure culture and infected pus injections, made into the nutrient artery of bones and into bone and joint cavities, have provoked the classic forms of tuberculous osteitis and synovitis, and the presence of tubercle bacilli in these structures, following such experiments, has been repeatedly demonstrated by the microscope.

There seems to be no law governing the distribution of the germ after its introduction into the system. Occasionally a local lesion at the point of implantation results, but we have the word of many observers that where no local trouble has been noted, general tubercular infection has been caused after a period of incubation. When the bacilli are injected into lymphatic ducts, neighboring chains of glands usually give early evidence of infection, but when injected into arterial trunks they are liable to be carried long distances and to be widely distributed.

The number of germs introduced and the degree of concentration in the experimental fluid or material, seems an important factor in this discussion. In support of this idea, W. Watson Cheyne has shown conclusively that when large, solid masses of infected animal tissue are ingested, specific ulcers of the intestine are a common occurrence; whereas, when the material is in smaller quantity, in liquid form, containing a less number of bacilli, the intestine remains healthy, and the mesenteric glands are implicated. Furthermore, it is positively affirmed that finely divided tuberculous particles may pass through both the intestinal wall and the mesenteric glands to find a lodgment in various internal organs, or in structures still more remote from the point of entrance. Finally, what, at first seems still more perplexing, there is no question but that, in some subjects, a small number of the specific bacilli have been implanted, carried into the circulation and disposed of in such a manner that they have never apparently given rise to any disturbance whatever. This fact is offered in support of the not infrequent statement that every person, at one time or another, has carried about within him the specific germ of tuberculosis.

The most rational explanation of these seeming inconsistencies must proceed from the probable fact that the bacillus finds great difficulty in obtaining a permanent foothold while the subject maintains a fair standard of general health, with corresponding power of resistance.

The special conditions favoring the lodgment of bacilli in bones is a point not capable of perfect demonstration. Koenig is strong in the belief that this character of bone lesions is the result of tubercular embolism. Nicholas Senn also is a firm believer in this doctrine. He claims that when the disease manifests itself in bone, it is evidence of earlier infection in some other part. From the primary seat small emboli are borne along by the arteries, until they are finally arrested in the terminal branches. These emboli are composed of fragments of granulation tissue containing bacilli. He further holds that the new vessels supplying the centres of growth in the bones of young persons, owing to their imperfect structure and tortuous outline, furnish the most favorable conditions for an arrest of this floating embolic material. His chief argument in support of this statement lies in the fact that the tubercular infarct, which marks the location of an embolus, is in every instance wedge-shaped, the area forming the infarct being that section of bone nourished by the obstructed vessel.

Cheyne calls attention to the fact that when non-pathogenic germs are mingled with the blood, they are rapidly eliminated therefrom, and that one of their favorite abiding places is in the medullary portions of the epiphyses of bones. He, however, does not regard either of these explanations as altogether satisfactory, and inclines to the belief that a prior injury is an important circumstance in the establishment of focal infection. He insists that subcutaneous lacerations, attended as they usually are by the formation of blood clots, and the exudation of serum, provide an excellent breeding ground, which, together with a lessened power of resistance, favors reproduction.

Another curious feature presented in the mass of evidence bearing upon this subject, is that these affections are usually attributed to slight as opposed to grave injuries, such, indeed, as attract little or no attention at the outset. The experiments of Krause and Schüller bearing upon this point are surprisingly conclusive. Joints of animals previously inoculated with pure culture bacilli were injured, when it was found that severe injuries, such as dislocations, were not nearly as often followed by specific joint disease as were lighter injuries, such as sprains. Moreover, it was found that fractures of bones in tuberculous animals invariably united. It is probable that in the presence of more extensive lesions, such as fractures and dislocations, reparative energy is so great as to prohibit activity on the part of the bacillus. As a general proposition, however, anything tending to lower the vitality of a part invites and promotes the tuberculous process.

With regard to heredity as a predisposing condition, it is very generally conceded that it is not the disease itself, but certain peculiarities rendering the parent and child alike susceptible to infection, which are transmitted. Experiments with tuberculous semen have shown little more than that the possibility of ovum inoculation *in utero* cannot be denied. On the other hand, John Ward Cousins, the most recent authority upon hereditary transmission, expresses the belief that there is some evidence in support of the assertion that the bacillus can pass freely from mother to fetus.

The primary seat of infection, in and about joints, is no longer as formerly a matter of controversy, since it has been clearly proven that it may be osseous, synovial, or periarticular; and we have only negative evidence in support of the assertion that cartilage is never the original point of attack. The most common and favorite location of the bacillus, however, is in the cancellated structure of the epiphyses, or in the vascular synovial membrane.

In osseous structures the tuberculous nodules, if few in number, may become encapsulated, remain harmless for an indefinite period, and ultimately undergo absorption. In such an event slight, if any, evidences of their presence remain. Even where the attack is more formidable, and attended by alarming symptoms, such as pain, tenderness and bone expansion, under favorable circumstances an arrest of the process may occur and its more palpable effects disappear. If, on the other hand, the disease be progressive, the nodules undergo necrosis, and the affected area is studded with masses of caseous material. Later in their history these undergo liquefaction, adjacent bone tissue undergoes decalcification, and the purulent foci thus established increase rapidly in size by invasion and coalition, forming abscesses, the contents of which usually find their way into the capsule of the nearest joint.

When the original attack is in the synovial membrane we meet, during the earlier stages, two distinct pathological conditions. In one a thick layer of granulation or fungoid tissue is deposited upon the membrane, giving a pulpy appearance to the entire sac. This is attended by little, if any, increase in the normal amount of fluid. Externally, the appearances are characteristic and interesting. The skin is pale and glossy. The joint is enlarged irregularly and its usual lines and depressions are obliterated. To the touch it has a doughy, feebly elastic feeling, and over limited areas there is imparted a most deceptive sense of fluctuation. This is the typical and classic "white swelling" of early writers. Its leading feature is a proneness to incorrigible deformity and impairment of function. Its clinical history, when unimpeded, is that of slow progression, leading to inevitable derangement of the joint, if not to loss of the affected limb. In the other class the fungoid process is less marked. The irritation accompanying tubercular invasion is attended by a great increase of synovial fluid. This state of affairs is usually chronic, suppuration occurring rarely at an early stage; but as the degenerative process in the nodules advances, the fluid becomes cloudy, then flocculent, and finally purulent. Outlying tissues are implicated and the condition known as panarthritis ensues. If at any stage of this affection, through a spontaneous or surgical opening, the joint becomes infected with septic germs, the destructive process is greatly expedited and the menace to life correspondingly enhanced.

In dealing with the treatment of tuberculous affections of the knee and ankle joints, this question naturally arises: Can the surgeon of to-day offer to this class of patients an amount of encouragement commensurate with our expanded knowledge from a bacteriological and pathological standpoint? If we accept as proven that the disorder is specific in character, that its identity hinges upon the presence of a living organism, and that the tubercle bacillus is to a high degree susceptible to external influences, as regards development, the answer is self-evident. An early, positive recognition of tuberculous joint lesions, as distinguished from uncomplicated inflammatory processes, has become a possibility. Hence, during the first stages at least, the surgeon is placed upon a sound footing as concerns the hope of arrest through rational, conservative measures. Nevertheless, it is true that the management of such affections involves many, and sometimes insurmountable, difficulties; and it is only by the aid of long experience, coupled with untiring patience, that the highest end may be attained.

The disease occurs often in young subjects. The embryonal cells upon which growth of the part depends are at best of low vitality, and when vitiated by early infection, are brought back to the normal standard only under very favorable circumstances. Hence it is clearly of great importance that there should be secured for the affected part the most perfect condition of the circulation. This can only be done efficiently through the medium of complete immobilization and physiological rest. Recognition of this principle, while always mandatory, is more essential where the focus of infection is in the synovial or periarticular structures than when in the epiphyses.

The best means for accomplishing this object in knee and ankle cases is the plaster of Paris splint, a successful resort to which requires considerable mechanical expertness. In young children, say under 6 years of age, the entire limb, from foot to groin, should be included, whether the disease be located in the knee or ankle; and if the knee be implicated, this rule must be respected for all ages. At the outset the patient should be confined to bed. An ingenious adjunct to the splint for securing obedience to this command in refractory patients is what is called a "nurse." This consists of a straight piece of hoop iron, the upper end of which is firmly incorporated in the meshes of the plaster dressing at the side of the ankle, the lower end projecting from four to six inches below the plantar surface. As these patients are, as a rule, extremely restless and intractable, parents and attendants will find this simple contrivance of great value. In behalf of cleanliness, and for the purpose of inspection, the splint should be renewed at intervals varying from two to four weeks.

The great importance of persisting faithfully in the course of treatment thus outlined for a protracted period, cannot be emphasized too strongly. At the very outset, and before the surgeon has formally assumed charge of a case, the patient or his friends should be explicitly warned that a successful result, or the nearest possible approach thereto, cannot be hoped for save through implicit obedience to this behest. To ignore this requirement is but to invite early dissatisfaction and distrust on the part of the patient or his friends. The time required for effecting an arrest or cure must be estimated not by weeks, but by months, and more often by many months. I am thoroughly convinced that a large number of failures in the past have been attributed to inattention to this requisite. Yielding to the importunities of those most interested, appliances have been prematurely discarded, and the patient left to suffer a recurrence of the process, that not infrequently is more rapidly destructive than was the original attack.

When a case progresses favorably the time soon arrives when it is desirable to remove it from bed and give it the benefits of exercise and life in the open air. Several forms of apparatus have been devised which accomplish this purpose fairly well, but I propose to describe but one, that of the late Hugh Owen Thomas. It is known as the "Thomas knee and ankle splint." Simple in construction and readily adaptable, it seems more nearly to meet every requirement of such cases than any other contrivance. The splint consists of an elliptical ring of three sixteenths inch wire. This is made to encircle the thigh, the external arc reaching well above the trochanters. The perineum rests upon the inner arc. It should be made so large as to admit of a thick padding of strips of blanket and a covering of soft leather, and fit the part rather loosely. At the external and internal points are welded lateral supports of the same material as the ring. These extend along the sides of the leg internally and externally, and are joined at their lower extremities by a thin iron cross-plate at a point 3 or 4 inches below the heel. A piece of webbing of proper length attached to the antero-posterior points suspends the apparatus from the shoulder of the side opposite the affected joint. About the thigh and calf of leg broad leather straps should be attached to both supports, so as to embrace the limb snugly when laced. An ordinary bandage may then be applied about the limb and splint so as to give additional support. Prior to its adjustment a light plaster or starch bandage should be made to cover the affected joint. Upon the well foot there should be fitted a substantial shoe provided with a patten corresponding in height to the length of the splint below the heel on the affected side. The patient will thus be enabled to run about on crutches safely and at will. The expertness acquired by these subjects in a short time is surprising, and the improvement in local and constitutional symptoms is most gratifying. Furthermore, in the experience of a large number of careful observers, the use of this apparatus in cases where the tuberculous nodules have not undergone caseation is rewarded by permanent cure without impairment of function.

In speaking of the rest cure, I have referred chiefly to those cases occurring frequently in child life, wherein tuberculous osteitis is the most common early manifestation. Tuberculous synovitis as an original lesion is, as a rule, observed in youths or adults. Attention has previously been called to its more prominent symptoms, viz.. a deposit of fungoid material in and upon the capsule, and profuse exudation of synovial fluid; both conditions being attended with marked chronicity. While cases thus affected are occasionally, like the osteitic variety, amenable to treatment by rest and fixation, this plan should be pursued only so far as to determine that favorable progress has or has not been made after a fair trial. In the latter event there should be an immediate resort to more rational and radical measures.

In dealing with any of the various forms of joint disease, the surgeon must assume a grave responsibility in deciding when the so-called expectant, conservative, or mechanical methods should be abandoned for more heroic and distinctly surgical procedures. A solution of this vexed question must depend upon a correct interpretation of initial symptoms, and a careful estimate of the virulence of the attack; or, more briefly, action must be governed by individual judgment and experience.

Antiseptic irrigation following aspiration has an established place among the methods of radical treatment of tuberculous hydrops. Since this subject was brought to the attention of the society in detail by me quite recently, I need only allude to it, and add that in my hands irrigation with carbolic acid and sublimate solutions continues to prove both safe and reliable.

Injections with iodoform solution or emulsion have of late been highly commended. If the capsule contain fluid, and more particularly purulent fluid, this should be evacuated and the cavity thoroughly irrigated with a mild antiseptic solution. From one to two ounces of an iodoform solution is then injected and the canula at once withdrawn. This process may be repeated once in two weeks, until marked change is manifest. Senn states that Krause treated in this manner 43 cases in 18 months, with the following deductions: Pain was relieved quickly. Swelling reduced more slowly, though in some cases to an appreciable extent in six weeks. In a fair percentage of cases there was a perfect cure. Purulent cavities often refilled, rapidly at first, but ultimately reaccumulation ceased. Billroth opens the joint freely, removes all morbid products and applies iodoform liberally.

The simplest operation aiming at the eradication of tuberculous foci, or localized deposits of morbid material from joint structures, is termed partial arthrectomy. In resorting to this procedure there must be unmistakable evidence of localization. Such symptoms as sub-periosteal tenderness and circumscribed enlargement, either with or without pain, are to be closely scrutinized; and when progressive, especially if associated with systemic enfeeblement, justify thorough exploration through a well-directed incision.

Complete arthrectomy consists in laying open the joint by one or more extensive incisions, and removing by the curette or chisel every affected portion. Although quite formidable, this operation is probably more satisfactory in the majority of cases than the foregoing. Large areas may thus be subjected to careful inspection, and the operator is free to proceed with a degree of boldness and thoroughness, without which all efforts will prove futile. For complete arthrectomies of the knee, Cousins recommends a large, horseshoe incision anteriorly, with oblique division of the patellar ligament, the divided ligament being reunited with catgut at the close of the operation. He claims that by this means, under favorable conditions, very excellent results, as regards permanent soundness and mobility, have been attained. In the ankle-joint extensive arthrectomies, involving removal of portions of the tibia and fibula, the entire astragalus, and segments of other tarsal bones, have been marked by uninterrupted recoveries and a useful foot.

The cases demanding total joint excision during advanced stages of tuberculous disease are familiar to us all and require no special comment. But we must not ignore the fact that the plan of early excision, as opposed to arthrectomy, has found many and reputable advocates. The controversy is being conducted with much zeal, and, from the evidence deduced, there will in time be formed a basis of correct inference, which at present, probably, does not exist The chief points in its favor are that it is more surely radical, and that limbs so operated are more generally useful than by the simpler method.

It was my original intention to abstain from any illusion to tuberculin as a remedial agent in these affections. This resolution was based upon entire absence of personal experience in its use, together with apparent discrepancies in the published statements of experimenters. Until very recently the agent seemed to have been regarded with much distrust, not only as being non-curative, but in most cases positively harmful. Several observers, however, after carefully weighing the evidence afforded by a wider experience, seem disposed either to revise their opinions, or at least to suspend judgment temporarily.

The conclusions arrived at by William Hunter and W. Watson Cheyne, the most painstaking of all English authorities, place tuberculin upon a footing. By a system of complex and intricate analyses they have succeeded in separating the substance into several component parts called "modifications," each of which, when employed singly, produces effects peculiar to itself. In this manner, for example, they claim to have obtained a "modification" which possesses heat-producing properties; another "modification possesses in an eminent degree the power of producing local reaction, followed by healing changes, around tuberculous lesions, unaccompanied by any constitutional disturbance whatever." This latter statement, which is certainly startling, will, if capable of verification, usher in a new era in the specific treatment of tuberculous affections.

From a clinical standpoint Cheyne believes that within certain limits tuberculin has wonderful remedial qualities. The cases specially adapted to its employment are those in which the infection is local and uncomplicated, or after operations where recovery is delayed. His method of administration is peculiar, and consists in the injection of the fluid two or three times daily. Minute quantities are used at first, and the dose is gradually increased to the maximum—two or three decigrammes. He insists that perfect recoveries have followed long-continued treatment by this plan.

The foregoing is submitted, with a full knowledge of its incompleteness, as a mere collation of evidence bearing upon a subject which to-day engrosses the attention of our profession. The main object has been to make clear the intimate relation existing between its pathological and clinical aspects.

426½ J street.

A FATAL CASE OF POISONING BY CHLORATE OF POTASH.

By **Albert Abrams, M. D.**, Demonstrator of Pathology and Adjunct to the Chair of Clinical Medicine, Cooper Medical College, San Francisco, Cal.

The following case, seen in consultation with Drs. Simon and Richter, is reported for its relative infrequency. By emphasizing the intoxicating effects of chlorate of potash, it may serve as a means of limiting the indiscriminate employment of the drug by the laity and by the profession:

A. L——, æt. 3 years, on the 24th of November, 1891, at 2 P. M., swallowed the contents of a bottle containing about 30 three-grain chlorate of potash lozenges. At 5 P. M., on the same day, the child vomited for about 15 minutes, and expelled about 12 or more lozenges. After vomiting the little patient appeared to be well until 11 o'clock at night, when vomiting again occurred, together with marked cyanosis and all the symptoms of collapse. Dr. Simon saw the child at this time, and administered the usual restoratives, with the result that the patient rallied, although the cyanosis persisted.

On the following day (second day after the intoxication) about two ounces of dark colored urine was passed, which was shown by the spectroscope and by Teichmann's test to consist of altered hemoglobin (metahemoglobin). There were no blood corpuscles recognizable with the microscope, nor other distinctive morphological elements. On this day the child complained of abdominal pains. Synchronous with the pain there was a slight elevation of temperature (about 102° F. in the rectum), which continued until the fourth day of the intoxication. During all this time the cyanosis persisted.

The child so far not having voided an appreciable quantity of urine a condom was attached to the penis, which showed that up to the death of the patient, six days after, almost complete anuria existed, only 5 or 6 ounces of urine being expelled during the entire period. This urine was very turbid and contained about 7 per cent. of albumin. The sediment showed absolutely no casts or renal epithelium. On the 6th day of the intoxication symptoms of uremia were first noted, manifested objectively by clonic spasms in the muscles of the face and extremities, amaurosis, emesis, and diarrhea. At this time there was a slight elevation of temperature, which pursued an atypical course until the death of the patient.

It was also noted that the cyanosis had disappeared, to be succeeded by icteric coloration. The stools were of a dark-red color, which awakened the suspicion that blood was present. This view was dispelled by tests, which showed the coloring matter to be bilirubin. The spleen was slightly enlarged, and petechiæ were present on the abdomen. During the entire course of the child's sickness the heart-sounds were clear, although occasionally arythmic. On the eighth day slight edema of the eyelids was observed. On the ninth day pulmonary edema developed, and on the tenth the child died.

The treatment pursued was as follows: Inhalations of oxygen until the cyanosis disappeared; strophanthus and digitalis, used alternately, as cardiac tonics and to promote diuresis; cold water affusions to the chest and back of the patient while immersed in warm water. The diet consisted exclusively of peptonized milk containing brandy in variable quantities, according to the child's condition as indicated by the pulse. When the uremic symptoms developed, large quantities of water were drunk, and diuresis was promoted by a fresh infusion of digitalis and acetate of potash. Hot and alcohol baths and enemata of glycerine were also administered.

The foregoing case presents the usual symptom picture of poisoning from potassium chlorate. It is evident from the clinical history that the cause of death was secondary renal involvement. The absence of casts and other evidences of nephritis fail to explain the oliguria. The explanation of the latter is, I am disposed to believe, as follows: In consequence of the rapid destruction of the red-blood corpuscles by the potassium chlorate, the hemoglobin thus liberated is quickly excreted,[1] not only by the glomeruli, but also by the renal epithelium. The result would be, in consequence of inactivity of the renal epithelial cells, the accumulation in the tubuli uriniferi of hemoglobin, which, in a mechanical way, seriously involves the secretion of urine. The condition would be somewhat analogous to the uric acid infarctions of the kidney occurring in children.

435 Geary street.

THE DIAGNOSIS OF WOUNDS OF THE INTESTINE BY HYDROGEN GAS, WITH A NEW METHOD OF LOCATING THE WOUND AFTER OPENING THE ABDOMEN.

By D. D. Crowley, M.D., Oakland, Cal.

Read before the Alameda County Medical Association.

To open the abdomen and search for a wound in the digestive tract may frequently be a questionable procedure, for, in the greater number of instances, wounds penetrating the abdominal wall do not injure or penetrate the intestine. Thus far it is necessary to depend upon signs and conditions that accompany wounds of various important organs, either in the thoracic or abdominal cavity, to indicate the necessity of an operation, and while to a degree guiding us in operative interference, they are not infallible.

---

[1] Ponfick. Congressf. innere Medicin, Wiesbaden, 1883. Adami Journal of Physiology, No. 6, 1885.

With wounds of the intestines, on the contrary, the rectal insufflation of hydrogen gas introduced by Senn, is a positive means of diagnosing that a recent penetrating wound of the abdominal parietes communicates with the lumen of the intestine. In fifteen minutes 1 to 2 gallons of hydrogen gas can be generated from chips of zinc, sulphuric acid, and water. By connecting the generating bottle with a rubber bag or balloon of sufficient size by means of a rubber tube, the gas is conveyed to the latter. A stop-cock fastened to the nozzle of the balloon prevents the loss of gas when the tube is detached from the generating bottle and connected with the rectal tube.

While it is not within the scope of this article to touch upon even the main features in the use of hydrogen gas, I wish to direct attention to a few impressions which have particularly interested me in my investigations. In conducting the test the rubber bag filled with hydrogen gas is placed on the floor, the rectal tube is inserted well into the rectum, and a steady pressure of 2 or 3 pounds is applied to the bag, the gas is forced into the colon, and in two to five minutes it passes the ileo-cecal valve, which, up to this time, has been a definite obstruction to its entrance into the small intestine. Resting the hand upon the abdomen the gas can be felt passing the valve, and in a few minutes the entire abdominal wall is distended by the dilatation of the intestines and stomach, or by the gas directly on the abdominal wall. If a wound exists in the intestine, the gas readily escapes through the intestinal and superficial wound, and can be readily ignited at the surface of the abdomen by holding a lighted match over the wound.

The tissues near the anus should be pressed tightly to the tube to prevent the gas from escaping. Fecal accumulations in the colon prevent the ready transmission of the gas, and in this case more time is required than when the bowel is unobstructed. A small wound in the intestines does not prevent the gas from traveling higher through the entire intestinal apparatus and escaping at the mouth. If the bowel is divided through one-half of its lumen the gas escapes into the serous cavity, and the intestine above is not distended, except possibly in a few instances. Where the bowel is completely divided, only the gut below the wound becomes distended, and even this is collapsed some distance away from the lesion.

Frequently it is most difficult to pass a probe through a small, penetrating, abdominal wound, and yet when there has been a sufficient insufflation of gas to distend the parietes the gas usually escapes, and can be ignited on the surface of the abdomen to prove its presence. If gas does not appear at the external wound after thorough distention, it is quite probable that the intestine has not been wounded; and yet even now the condition of the external wound may be a hindrance to this conclusion. A coagulum, in addition to the very tortuous path of the wound, may prevent the appearance of gas. This source of error must be eliminated and the wound made patent; if then no gas appears, there is not a penetrating wound either of intestine or stomach.

No ill effects follow the use of the gas; *i. e.*, no physiological ill effects, it being both innocuous and non-irritant. It is, however, a slight mechanical interference to the closing of the abdomen, the intestines being greatly distended; it often requires more than ordinary force to suture the external wound. This tympanites may be greatly and almost immediately diminished by inserting a tube into the stomach and into the colon.

Experiment I.—Dog; male; bullhound; weight, 35 lbs. September 1st: With a handful of small pieces of zinc, sulphuric acid one part and water four parts, a quantity of hydrogen gas was generated sufficient to fill a two-gallon rubber bag. The rectal tube was then attached and inserted into the rectum of the dog, and by moderate pressure with the hand on the rubber bag the gas was forced into the bowel. At first there was considerable resistance, but when it passed the ileo-cecal valve a steady emptying of the bag could be discerned, and, by palpation, a diffusion of the gas could be felt throughout the entire intestinal canal. In two minutes the gas had passed the cecum, and in four minutes was escaping from the mouth. After two eructations the rectal tube was withdrawn. Dog's body apparently inflated. Temperature prior and subsequent to inflation, 98° F. In fifteen minutes the dog was permitted to run about yard. Not noticeably discommoded by experiment.

Experiment II.—Dog; male; bullhound; weight, 30 lbs. Sept. 3, 1891, at 10:30 A. M.: Chloroformed and etherized dog. Shaved abdomen. Stabbed with operating knife twice on left side, once on right side, median line, below umbilicus, knife entering two to three inches. Inflated intestine with hydrogen. It required four minutes to pass through the ileo-cecal valve, considerable pressure on the bag being employed. A few minutes after the small intestine and stomach were filled, a glass tube was inserted in the wound, no gas appearing at the free end. On opening the abdomen in the median line no wound was found except one, only effecting the serous layer. While the abdomen was open, the intestine was purposely perforated, and returned to the cavity without stitching. By holding the edges of the abdominal wound together with the hand, gas escaped, and ignited when touched with a lighted match. Upon reëxamination I had some trouble in finding the intestinal wound, which was then closed with the Lembert suture. At 4 P. M. the dog was walking about, and at 6 P. M. was placed with others.

Experiment III—Dog; water spaniel; bitch; weight, 35 lbs. Sept. 6, 11:20 A. M. Anesthetized. Shaved abdomen. Thrust knife into abdomen on right side of linea alba below umbilicus, and turned it with a sawing motion, so as to be sure to wound intestine. Inserted rectal tube, and by moderate pressure on the gas bag forced the hydrogen into the bowel. After three minutes intestines appeared thoroughly inflated, as they raised the abdominal wall. Tried to probe wound which was one-half inch in length, but could not insert a grooved director. Pressed upon the protruding abdomen with the hand, and gas freely escaped through the wound. Held lighted match over wound and upon gentle pressure gas escaped and ignited, causing a slight explosive noise.

I have cited these three experiments, because they were my first, and in conducting them I met with obstacles that were afterwards easily overcome. I learned that many penetrating wounds of the abdominal wall do not penetrate the intestine, but that there are often wounds of other tissues that require surgical interference. Frequently wounds of the mesentery are followed by such alarming symptoms that nothing is left but to cut down and ligate.

In every experiment, when the gas did not appear at the external wound, in order to avoid the possibility of error, the abdomen was opened and the intestines carefully inspected. From these immediate inspections, and also from *post-mortem* examination, I arrived at the definite conclusion that gas is infallible as a diagnostic element, if judiciously used.

The distention of the intestines and stomach that interferes with the suturing of the external wound, is greatly relieved by the insertion of tubes into the stomach through the mouth and into the colon through the rectum.

In these experiments I also discover that another element would greatly aid the surgeon in quickly locating the intestinal wound when the intestines were exposed. It often requires one half hour or more to discover a wound in the intestine. When there is positive proof of its existence, and when such a wound is dealt with, the operator is not quite sure that there are not others. If hydrogen gas is used while the intestines are visible, its escape and the accompanying sound aids materially in reaching the wound, but not without the loss of valuable time.

In several experiments after laying open the abdomen and then inflating the intestines, I did not consider the sound of escaping gas a sufficiently important diagnostic sign. To overcome this difficulty, I tried the procedure of partially flushing the peritoneal cavity with a mild antiseptic solution (carbolic acid, ½ per cent.) and by gentle pressure of the hand, submerging all of the intestines. This proved most satisfactory, for at once large white bubbles of gas could be seen rising through the fluid, and by raising one loop of intestine after another the location of the wound was quickly revealed.

Flushing the abdomen for diagnostic purposes, also accomplishes the object of removing clots of blood and extraneous matter that might set up active septicemia. After one wound has been sutured, the procedure should be repeated so as to determine the presence or absence of other wounds. I am unaware that others have had recourse to this method for locating intestinal wounds, nor have I seen any reference to it in the literature at my command. As I deem it a simple and important feature in intestinal work, I have brought it before the Society for its consideration.

1003½ Broadway.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By WALLACE A. BRIGGS, M. D., Sacramento, Cal., and
HENRY GIBBONS, JR., M.D., Professor of Obstetrics and Diseases of Women, Cooper Medical College, San Francisco, Cal.

Treatment of Uterine Fibroids by Combined Galvanization and Faradization.—DR. BARADUC has devised a new electrical treatment of uterine fibroids, which consists in the joint use of the galvanic and faradic currents, applying both electrodes to the abdominal walls or on the cervix, and the other to the abdomen. The apparatus consists of a galvanic battery capable of furnishing a current of 250 milliamperes, a coarse faradic coil, and two very moist tampons to be pressed very firmly against the wet skin, so as to localize the current which should invade the uterus at one of its two axes. After one, or perhaps more than one *séance*, a positive diminution may be observed in the mass of the tumor, which is manifested by a depression of the form and size of the electrode, at the site of its application. This percutaneous procedure is based not only upon the contractile, circulatory, and resorbent power of the faradic vibrations, but also, and especially, upon its disintegrating and oxidizing action. It is especially applicable to inoperable abdominal fibroids that are impenetrable to the uterine sound. The operation consists of three steps: (1) The application and maintenance by strong pressure of the two rheaphores upon the abdominal walls, or of the cutaneous rheaphore if the other is used *per vaginam*. (2) The established current completely utilized, muscular construction ceases because of the penetration of the current, which the patient no longer feels, its action being wholly spent upon the tumor. (3) Gradual increase of the galvanic current while maintaining the rapidity of the faradic vibrations. Dr. Baraduc reports one case of immense abdominal fibroid which had been refused operation by Péan, but which was relieved of all urgent symptoms by the combined electrical treatment just described, while at the same time it was reduced in volume one-half.—*Journal de Médicine de Paris*, October, 1891.

Asepsis in Intraperitoneal Surgery.—DR. WATHEN believes that if the proper precautions as regards cleanliness in every detail before and after the operation be observed, we shall have no need of germicides, which are harmful if brought in contact with the healthy peritoneum, and which cause subsequent trouble, if they do not produce immediate bad results. The great objection to their use is that reliance is placed upon them to the neglect of practical cleanliness. In the attainment of asepsis in laparotomy the following order may be observed: (1) The operating room and the room in which the patient is o remain during convalescence. (2) The patient. (3) The operator and all assistants. (4) The kind of water to use. (5) (*a*) Instruments; (*b*) sutures and ligatures; (*c*) sponges; (*d*) dressings and towels. (6) Irrigation. (7) The drainage tube. Suprapubic drainage is best effected with a small glass tube, with open end fine holes on the side extending within from two or three inches of the mouth. The liquid from the tube should be removed by suction without the use of wick or gauze.—*Annals of Gynecology*, October, 1891.

Electricity in Uterine Fibroids.—It is but two years, says DR. AUGUSTIN GOELET, since I went to Paris to see the work Apostoli was doing in his clinic in the Rue du Jour. At that time electricity was used by very few in this country; was despised by many, and denounced in unmeasured terms by the most prominent gynecologists, while to-day there is hardly a physician in New York who does not employ it in his routine practice. But progress is necessarily slow, work purely experimental, and timidity the greatest drawback. We can hardly expect a man to use from 1 to 250 milliamperes of what he regards as a dangerous agent, without having seen its harmlessness demonstrated. Its present status is illustrated by a recent paper by Dr. Bache McE. Emmet, in which attention was called to the benefit to be derived from its use in pelvic exudation, subinvolution, pelvic congestion, *painful conditions following laparotomy*, menorrhagia, metorrhagia, endometritis, endocervicitis, catarrhal salpingitis, uterine displacements, amenorrhea, ectopic gestation, and in relieving the prominent symptoms connected with uterine fibroids. As to its value in the treatment of fibroids, while admitting that he had not always followed Apostoli's directions, and had never used more than 75 milliamperes, he had sometimes reduced the size of the tumor, had always relieved the symptoms, and has reached the conclusion that no one is justified in removing certain fibroid tumors until electricity has been faithfully tried. If these results can be attained by such evidently imperfect work, what may we infer as to the capabilities of this agent when better understood and properly applied?. The tendency to use too moderate currents in all conditions is growing, however, to the disadvantage of beneficial results that this remedy is capable of affording. Cutter made use of strong currents by puncture into the growth, and still advocates a current of quantity in preference to one of intensity, and reports of complete dispersion or marked diminution of fibroid tumors, notably by Apostoli and Keith, show that a strong current was always employed. No great reduction in the size of the tumor has been claimed by anyone for intrauterine and intravaginal applications, therefore let no unjustified expectations discredit an agent of such intrinsic value.—*Archives of Gynecology*, October, 1891.

Recurrent Pelvic Inflammation.—The experience of DR. L. H. DUNNING has led him to the following conclusions: (1) In recurrent pelvic inflammation involving the uterine appendages, abdominal section, and removal of the appendages yields the greatest number of cures. (2) The surgical method, compared with the non-surgical method, is a life-saving procedure. (3) Electricity cannot be relied upon to cure a large percentage of cases, yet so much benefit has been derived from its use in 50 per cent. of all, that it is a remedy worthy of trial in suitable cases. (4) Recurrent pelvic inflammation is not so fatal a malady as many would lead us to believe. Of the 50 cases reported, but two patients died as a result of the disease. Nearly all had suffered from the disease many years. (5) The disease tends strongly to produce chronic invalidism and sterility, and to result in the formation of chronic pelvic abscesses. (6) If there are no contraindications, and a reasonable amount of non-surgical and electrical treatment has not been beneficial, there should be no hesitancy in performing the curative and life-saving operation of abdominal section and removal of the uterine annexæ. (7) Morphine is a remedy of great potency in the after-treatment of abdominal sec[illegible] and can be safely and efficiently used in cases in which calomel, Epsom salts, and high enemata have failed to induce catharsis and control vomiting.—*New York Medical Journal*, October 17, 1891.

SURGERY.

By T. W. HUNTINGTON, B. A., M. D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal.,

J. F. MORSE, M. D., Surgeon German Hospital, San Francisco, Cal., and

G. F. SHIELS, M. D., C. M., F. R. C. S. E., Surgeon Polyclinic, San Francisco, Cal.

Intestinal Obstruction by a Mass of Round Worms.—DR. HEYDENREICH reports a case of intestinal obstruction, in which Nélaton's operation was performed in the left groin with successful results, and the artificial anus was afterwards completely and permanently closed by a novel autoplastic operation. The subject, a child 11 years of age, came under the notice of the author on the ninth day of a severe attack of obstruction. The case having been diagnosed as one of intussusception, the idea of performing laparotomy was not entertained, as it was thought that the adhesions between the layers of intestines would be too firm to permit of the invaginated portion being drawn out. The small intestine was opened in the left groin, and two days later a bulky mass, made up of seven round worms, presented itself at the artificial anus, and was extracted. The young patient quickly recovered from the attack of obstruction, and the artificial anus was subsequently closed. Blood was passed from the anus during the period of obstruction.—*British Medical Journal.*

Suture in Simple Fracture of the Clavicle.—DR. POIRIER holds that in certain cases of simple fracture of the clavicle it might be found advisable to expose the injury by incision, and to apply a ligature either of silver wire or silk in order to keep the fragments in good position. This operation, which was first performed by Langenbuch in 1882, has since been much criticized. A recent case is reported in which Dr. Poirier made an incision over a simple comminuted fracture of the left clavicle, removed a detached osseous splinter, and fixed together by silver wire the two main fragments of the bone. He describes certain features which would, in his opinion, indicate in recent fracture of the clavicle treatment as above. He mentions cases of severe subcutaneous injury of the vessels or nerves of the neck, in which it has been found necessary to make an incision in order to arrest hemorrhage, or to search for a divided nerve; the broken bone being thus exposed might be sutured without any further risk. This treatment, it is held, is indicated also in cases of comminuted fracture with one or more displaced fragments, which might, in course of time, give rise to some disturbance of the brachial plexus, or result in the formation of masses of callus, in which the subjacent nerves are involved.—*Semaine Médicale.*

Processes of Repair in Brain Wounds.—KAHLDEN describes the histological characters of a wound of the brain produced by a bullet 47 days before death. The canal left by the bullet was still patent, its walls on microscopical examination being found to present several layers possessing different histological characters. He believes that the internal or granulation layer is exclusively developed from existing blood-vessels, his view on this point being at variance with that of other observers who consider that the neuroglia takes part in forming the cicatrix. The error of the latter may have arisen through connective tissue, belonging to the vessels, or their sheaths being mistaken for neuroglia. External to the granulation layer lies the zone, consisting of softened, degenerated brain substance, as is shown by the presence of fat, of pigmented granular cells, and of myeline masses, being within loose, wide-meshed tissue, and by the total absence of healthy nerve fibres. There is still some doubt what share this zone plays in the processes of repair, but Kahlden believes that as a rule it is gradually replaced by granulation tissue, and finally by connective tissue, although in some cases it may perish and thus cause the adjacent granulation layer to slough.—*Centralblatt f. Chirurgie.*

Asepsis and Antisepsis.—According to DR. ARPAD G. GERSTER, the epidermis and hair contain harmless and noxious germs and are more or less coated by various oleaginous substances which prevent the penetration of all watery solutions. This coating of grease is best removed by an emollient potash soap, hot water and a stiff brush made from the bristles of the hog. Hands are sterilized by trimming the nails and scrubbing with brush and soap in hot water; attention being paid to subungual spaces, which should be scraped with a nail cleaner. The hands are then immersed in strong alcohol, then in a $\frac{1}{1000}$ solution of corrosive sublimate. Instruments, during boiling in a one per cent. solution of common washing soda, will not rust and will be found faultlessly sterilized. A cold sterilized soda solution can be poured over hot instruments as soon as they are placed in the instrument tray. Nail brushes boiled for five minutes in a similar solution are rendered absolutely aseptic. Ordinarily they should be kept in a $\frac{1}{1000}$ sublimate solution and boiled before laparotomies or whenever intensive infection has occurred. The antiseptic value of absorbent dressings depends on rapid evaporation rather than their chemical properties, Material boiled in a soda or potash solution (½ per cent,) for ten minutes, is absorbent and aseptic. Sponges are prepared by dry beating; a short immersion in standard dilute muriatic acid, then two days in water to give the spores a chance to germinate. After this a thorough kneading in plenty of hot water and potash or soft soap and twenty-four hours immersion in a 5 per cent. solution of carbolic acid, renders them absolutely sterile and fit for use. Irrigation of an aseptic wound is unnecessary and even harmful. It should be employed in wounds which are *per se* not aseptic, and during operations in and about accidently infected or suppurating areas. Irrigation of the abdominal cavity should never be employed. A faultless asepsis enables us to do away with both irrigation and drainage. After operations the irregular cavities left by the surgeon are filled with oozing blood, which, coagulating, forms a solid aseptic plug, which is gradually consumed and replaced by connective tissue elements of new formation. An angle of the wound is left somewhat patulous to provide egress for the first on-rush of oozing blood. Bergmann obtains primary adhesion in wounds of doubtful asepticity, by passing suture points through the edges of the wound, but leaving them ununited, and then packing the open wound and all its recesses down to the bottom with iodoform gauze. In about sixty hours the copious oozing loses its sanguinolent character. The packing may then be extracted and the suture points, left *in situ*, closed. The wound heals in a manner little differing from primary union. Active destructive suppuration is best combated by purely mechanical measures, such as adequate incision properly placed drainage, the extraction of sloughs and sequestra, with frequent energetic irrigation, which play a much more important part in checking mischief than chemical disinfection. When the secretion is purulent a moist dressing prevents its becoming inspissated and forming a crust. The escaping pus is evenly absorbed by the dressing, and a soothing effect is exerted upon the inflamed parts. Microbes contained in dense masses of pus remain unscathed by the minute quantities of chemical contained in dressings, which are often sufficient to irritate the skin into a florid eczema.—*American Journal of Medical Sciences*, November, 1891.

A Case of Symmetrical Gangrene of the Feet.—MR. W. H. BROWN reports the following case: The patient had always enjoyed good health up to ten weeks prior to admission to hospital, when he was seized with violent and persistent diarrhea, accompanied with abdominal cramps and surface lividity. This was followed by collapse, which continued for two or three days, during which time he complained very much of pain in both feet. His body lost its livid hue, but the skin over the anterior half of both feet remained discolored and cold. It was necessary to administer full doses of opium to control the pain. At the end of six weeks a line of demarcation formed and the pain lessened. On admission the granulating surface at the junction of the living and dead tissue was of an unusually brilliant pink color, and the discharge offensive. The heart sounds were normal and vessels healthy (both anterior and posterior tibials could be felt at the ankle); the temperature each night was 100° to 101° F., falling each morning to 98° or 99°. The process of separation was very slow. Three months after entrance, the discharge having become sweet and the temperature normal, the right foot was amputated, the ordinary incision for Syme's operation being used. The bones of the tarsus were found to be softened and infiltrated with pus, the cancellous tissue being replaced by soft cheesy material. The stump healed rapidly. The left foot was removed in a similar manner, and also resulted in a firm stump. The patient was discharged four weeks after the second amputation. In ordinary senile gangrene, waiting till the parts have separated, or amputation far above the seat of disease, has been, and is, the method followed by the majority of surgeons. In the present case, when the gangrene was in every respect save one like an ordinary case of senile gangrene, the parts were removed, neither waiting for separation nor amputating above the disease. The result justifies the procedure, as the patient was saved many weeks of waiting, and only suffered the loss of those parts already destroyed by disease.—*Lancet.*

The Results of Laparotomy for Acute Intussusception.—DR. B. FARQUHAR CURTIS says, in a collection of 70 cases operated upon from 1873 to 1887, inclusive, the mortality was 76 per cent. Of 105 cases now on record the mortality is 70 per cent. Out of 65 cases, in which the intussusception could be reduced, only 38 died, a mortality of 58 per cent.; among the children the mortality was 66; among the adults 47 per cent. Of 17 cases, in which the affected bowel was resected and sutured, only two recovered, both adults. Of 16 cases, in which an artificial anus was made (with or without reduction or resection of the intussusception), two cases recovered, both adults. These figures show that prolonged operations are almost invariably fatal, and furnish another argument against delay, for that is the usual cause of the conditions which render operations difficult. Delay is also responsible for the high mortality, nearly all cases being recorded as in very bad condition, or even in collapse at the time of operation. Laparotomy, to give good results, must be performed as soon as systematic efforts to reduce the intussusception with rectal injections have been made without success. It must constantly be borne in mind that there is danger in performing laparotomy for intestinal obstruction, but there is also danger in postponing it until it must be undertaken as a last resort.—*Medical Record*, October 31, 1891.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By WM. ELLERY BRIGGS, M. D., Sacramento, Cal.

The Route of Respired Air Through the Nose.—R. KAYSER, after numerous experiments upon the cadaver and the living subject, asserts that during inspiration in the normal nose the bulk of air passes along the septum, above the inferior turbinated body, describing a semi-circle in its course and extending upwards nearly to the roof of the nose. Although at variance with commonly accepted opinions, he has demonstrated his work so clearly as to settle the many controversies of reputable authorities regarding this question. According to him, the air enters the nose perpendicularly to the plane of the nares; the continuing aspiratory movement gives it a backward direction, so that the real direction must be the resultant of the two, thereby directing the current through the pars olfactoria instead of through the pars respiratoria; and settles the mystery regarding the appreciation of smell in quiet breathing. All nasal changes which do not influence the normal direction of the air current need have no restricting effect upon breathing. This will eliminate obstruction in the lower passage for consideration here. Furthermore, this upward direction of air favors the supply of warmth and moisture; the route is made longer and narrower. These attributes serve to filter the air for the lungs.—*Archives of Otology*, Vol. xx, No. 1.

The Frequency of Trachoma.—According to SCHMIDT, the chief contingent of eye diseases is formed of cases of trachoma, in which he includes the so-called folliculosis and the catarrhus follicularis. He has often observed the development of undoubted trachoma from the lighter forms of folliculosis. In its early stages, trachoma yields readily to treatment. After being cured, the patient should still be kept under observation for a week or two, to guard against relapses. The formation of follicles on the tarsal surface is always a sign of the long duration of the disease, and demands a more extended treatment. In the first stages of trachoma the follicles are present only in the *cul-de-sac*, and may easily be overlooked. The only cause is infection. The treatment consists in the early squeezing out of the follicles, which usually prevents extensive cicatrization; and later in the use of 1 to 2 per cent. nitrate of silver, 2 per cent. acetate of lead, or the stick of sulphate of copper, which prevents the involvement of the cornea.—*Med. Supplement to the Moskoi Sbornik.*

Treatment of Keratoconus.—DESPAGNET reports three cases of keratoconus treated in different manners. In the first case a small ulcer formed at the apex of the cone. A compress and bandage was used and later, after cauterization with nitrate of silver, the cone became flatter, but a slight keratoglobus resulted. In the second case, one eye was treated with eserine and a compress bandage, while the other eye was not treated. The conus increased equally in both eyes and the vision decreased correspondingly. In the third case he excised a crescentic bit from the entire thickness of the cornea after Galezowski's method. The wound cicatrized in a month, but six months later became infiltrated and an ulcer developed. This was cauterized with the galvano-cautery, a paracentesis was made and a compress bandage applied, and the ulcer healed. Despagnet, therefore, recommends the treatment by excision of a crescentic bit of cornea. In the discussion de Wecker advised against operative treatment. Of all the operations suggested that of v. Graefe is still the best. Meyer operates according to v. Graefe. Abadie perforates the cornea with the galvano-cautery. Jocqs favors eserine and a compress bandage. Gillet de Grandmont saw a good result after v. Graefe's operation, but will not hesitate to open the anterior chamber in the excision. Parinaud scarifies the cornea.—*Soc. d'Ophthal. de Paris.*

DERMATOLOGY, SYPHILIS AND VENEREAL DISEASES.

By G. L. SIMMONS, JR., M. D., Sacramento, Cal.

Syphilitic Hydrocephalus.—L. D'ASTROS, of Marseilles, has published in the *Révue des Maladies de l'Enfance*, an elaborate study of the evidence as to the occurrence of hydrocephalus in infants suffering from hereditary syphilis. He shows that two forms occur: (1) A form in which there is a greater or less, it may be an extreme, degree of arrest of cerebral development; in these cases the reason of the increase in the quantity of fluid within the cranium after birth is not very clear. (2) A form in which the hydrocephalus is directly due to a syphilitic affection of the ependyma of the ventricles and of the corpora striata. This lesion is a diffuse infiltration with embryonic cells, and may be so rapid as to render the parts diffluent. Hydrocephalus due to congenital syphilis comes on earlier in life than that due to tuberculosis or other causes, namely, within the first three months of life. The symptoms, which run a rapid course, do not differ from those of acute hydrocephalus from other causes. They may appear either before or after the characteristic skin lesions. D'Astros considers that since it may be the earliest discoverable manifestation of hereditary syphilis, "hydrocephalus in early infancy ought always to be suspected to be syphilitic, and should be a reason for forbidding the suckling of an infant by any other nurse than its mother." He relates a very striking case in which, for want of this precaution, a healthy wet-nurse was infected by an infant which did not present any skin lesions until two months after the first symptoms of hydrocephalus had been noted. As to the occurrence of hydrocephalus due to congenital syphilis at a later stage of infancy, he expresses the opinion that it is highly probable that it does occur, but that it is not proved. The prognosis in early infancy is very bad, all the cases diagnosed, with one doubtful exception, having died.—*British Medical Journal*, December 12, 1891.

Physiological Treatment of Certain Skin Affections.—At a recent meeting of the Academy of Medicine, M. DUJARDIN-BEAUMETZ communicated (*Lancet*) certain observations of M. Semmola, of Naples, on what he termed the physiological treatment of some cutaneous affections. There exists, he pointed out, certain forms of eczema and psoriasis, which become manifest during the warm season and disappear as soon as the cold sets in. These eruptions are determined by the irritant action of products eliminated by the skin. The general nutritive exchanges being modified, and the sudorific function being suppressed, the organism is, as it were, forced to rid itself of these products of incomplete oxidation by the cutaneous surface under a more concentrated form and with a somewhat different chemical composition. In such cases, it suffices to adopt a purely physiological method to bring about the cure of the eruption; that is to say, it is necessary to reëstablish the equilibrium between the activity of the organic exchanges and the depurative functions of the skin. With this object the patients are submitted to the prolonged action of baths of 30° to 35° C. during two to three hours, from the commencement of September. After four weeks of this treatment, daily douches are substituted for the baths and continued all the winter, every other day. As an aid to the above treatment, M. Semmola prescribes, where there is any scrofulous taint, iodide of sodium in liberal doses; or, if there be any suspicion of gout or rheumatism, the bicarbonate and phosphate of sodium.—*Therapeutic Gazette*, December 15, 1891.

MATERIA MEDICA AND THERAPEUTICS.

By WM. WATT KERR, M. A., M. B., C. M., Professor of Clinical Medicine, University of California, San Francisco.

Treatment of Epilepsy by the Conjoined Employment of Bromide of Potassium and of an Agent Capable of Rendering the Nervous Centres Anemic.—Under this head POULET, of Planche-les-Mines, writes of a combination of bromide of potassium with calabar bean (*vide* MEDICAL TIMES, vol. v, p. 610), which has given him success in the treatment of obstinate cases of epilepsy, where the bromides alone had failed. Dose: One tablespoonful, to be increased to a tablespoonful and a half, then two tablespoonfuls, daily. A tablespoonful contains about 57 grains of bromide and about 16 minims of the tincture. The medicine may be given in divided doses instead of one full dose, half a teaspoonful being given at first twice, then three times, then four times daily. The bromides remain the sheet anchor in epilepsy; and by the term "bromides" we have especial reference to the bromide of potassium, which alone is truly efficacious. There are, however, a great many epileptics whose attacks are only mitigated or postponed, not completely suppressed, by bromide of potassium, and in such cases, if we associate the bromide with some agent that possesses properties identical with those of the bromide (that is, being capable of anemiating and decongesting the nerve centres and paralyzing the system of voluntary muscles), we generally obtain results which are perfectly satisfactory in essential epilepsy, and even in partial, or Jacksonian, epilepsy, on condition that, in the latter, we begin by the specific treatment of the determining cause. The substances that have been most successful are calabar bean, picrotoxine, and belladonna. In cardiac epilepsy digitalis must be added. We may indifferently substitute sulphate of eserine for the preparations of calabar bean, sulphate of atropine for those of belladonna, and digitaline for digitalis.—*American Journal of Medical Science*, September, 1891.

Music as a Therapeutic Agency.—CANON HARFORD has attempted to bring music within the sphere of practical therapeutics, and to submit it to the test of systematic clinical experiment. The objects of the Guild of St. Cecilia, founded by him, are thus set forth: (1) To test, by trials made in a large number of cases of illness, the power of soft music to induce calmness of mind, alleviation of pain, and sleep. (2) To provide a large number of musicians specially trained to sing and play the very soft music, which alone should be administered to those whose nerves are weakened by illness. These musicians should be in readiness to answer promptly the summons of a physician. (3) To hire, or build, in a central part of London a large hall, in which music shall be given throughout all hours of the day and night. This music to be conveyed by telephone attached to certain wards in each of the chief London hospitals. (4) To obtain opinions and advice respecting the classes of illness in which music is likely to be most beneficial, and to collect and record all reliable accounts respecting permanent benefit that has followed the use of music. The work of sending musicians to hospitals and infirmaries has already commenced; and it is intended to continue the experiment long enough for a definite conclusion to be arrived at as to the services which music is likely to render to the sick. We cannot profess to be so sanguine as to the beneficial effects of music as the promoters of the movement seem to be, but there cannot be any possible harm in trying the experiment, so long as it is carried out under medical supervision. There are certain obvious objections to the general use of music as a therapeutic agent. There are excitable natures to which the emotion produced by music might be injurious, and even dangerous, under certain circumstances. Again, there are many persons who agree with Théophile Gautier in thinking music simply "the most expensive of noises," and to whom the concourse of sweet sounds would be an intolerable annoyance during illness. But whatever the actual value of this new addition to our therapeutic resources may prove to be, all interested in the care of the sick should be grateful to Canon Harford for his graceful and genuinely philanthropic proposal.—*British Medical Journal,*

Treatment of Diabetic Coma.—DR. REYNOLDS, for the relief of diabetic coma, recommends the administration of a large amount of saline solution by the mouth. In the case of a man with rapidly approaching symptoms of diabetic coma he ordered an aperient, telling the patient to drink during the night at least a gallon of fluid, together with an ounce every hour of a mixture containing 20 grains of citrate of potash to the ounce. Next morning the man was slightly better, and the treatment was continued for another twelve hours, the quantity of potash being diminished. In three days all symptoms of coma had passed away, the sugar had again increased in quantity, the acetone had disappeared from the breath and urine, and the albuminuria had entirely ceased. In a second case the results were similar. Dr. Reynolds urges the importance of an early recognition of approaching coma and lays stress on the following points: A distinct sense and appearance of increased weakness, slight drowsiness, pain in the left hypochondrium, labored respiration. prolonged expiration, an acetone-like smell in the breath and urine, lessened excretion of sugar, acetone reaction in the urine, and albuminria. When such symptoms are present the patient is in the greatest danger. The treatment is absolute rest in bed, moderate purgation, a slight relaxation of the diabetic diet, large doses of citrate of potash, and very large quantities of fluids taken internally. These fluids may consist of milk, lemonade, tea, water, or barley water, and the quantity should amount to nearly a gallon in twelve hours.—*British Medical Journal.*

Aristol in the Treatment of Pulmonary Tuberculosis.—DR. NADAUD claims marked success in the treatment of pulmonary tuberculosis by the hypodermic injection of aristol. He mixes one part of the drug with 100 parts of sweet almond oil, and of this he injects one cubic centimetre daily, the maximum daily dose being three cubic centimetres. As a result of experiments on 23 patients, he arrives at the following conclusions: (1.) Aristol when used hypodermically, produces toxic effects. (2.) It is principally eliminated by the lungs. (3.) Aristol acts as an antiseptic and promotes nutrition.

(4.) The action of the drug is prompt. On the sixth or seventh day the cough lessens and the night sweats cease. (5.) After the twentieth or twenty-fifth day the weight of the patient is increased. (6.) The earlier the stage of the disease the better the results. (7.) The injections do not produce inflammation.—*Medical Press and Circular*, October 21, 1891.

MEDICINE AND PATHOLOGY.

By ALBERT ABRAMS, M. D., Demonstrator of Pathology, and Adjunct to the Chair of Clinical Medicine, Cooper Medical College, San Francisco, Cal.

Diabetes Salivaris.—By this term L. TARALBO (*Gaz. Med. Lomb.*) describes the case of a patient with pronounced symptoms of hysteria, in whom large quantities of saliva were secreted, containing from 10 to 15 per cent. of sugar. In this case disturbances of digestion were also present. Polyuria and polydipsia were absent, and only the faintest trace of sugar was present in the urine. He considers this salivary diabetes ("Glycopyalorrhea)" as the initial stage of diabetes mellitus.—*Wiener klin. Wochenschrift.*

Gall Stones and Their Treatment.—The etiology of gall stones is, according to RAJCHMAN, in some way connected with a diathesis of the organism which is dependent on disturbances of nutrition, and is congenital, or when acquired, is produced by certain modes of life. Anything interfering with the discharge of bile also conduces to the formation of gall stones. The symptoms of gall stones must be distinguished from attacks of gastralgia and enteralgia. Gastralgia is differentiated from the colic of gall stones by the localization of the pain, and that during the attack of colic jaundice occurs, with biliary pigments in the urine, and finally gall stones may be found in the feces after the paroxysms. The radical treatment of gall stones (cholelithiasis) is impossible. The best results are achieved with an absolute milk diet and the use of alkaline mineral waters. Cathartics, oil and salicylate of soda, are also of value. Surgical interference is recommended if the calculi are large. PROF. KORCZYNSKI, in discussing this paper, referred to the difficulties in diagnosis, as cholelithiasis presents a symptom picture somewhat like that of malaria or renal colic. The only certain sign of the affection was the finding of the calculi in the passages. DUNIN considered that cholelithiasis was a hereditary disease. Fever is a frequent symptom in this affection, and must be ascribed to a suppuration of the biliary ducts.—*Wiener Med. Presse*, 1891.

DR. PURCKHAUER refers to the mechanical treatment of catarrhal icterus and gall stones. The object of the mechanical treatment is the removal of the mucus plug and gall stones from the ductus choledochus in a bloodless way. The methods thus far recommended for this purpose have been Faradization, massage and digital compression of the gall bladder, and large intestinal injections of water. Faradization of the gall bladder was recommended by Gerhardt, but is seldom employed at the present time. Intestinal injections of large quantities of cold water are of undoubted benefit in promoting the flow of bile. Little can be expected from digital compression and massage. He recommends a method of treatment which is very unique. It consists, essentially, of having the patient bring the body into active exercise for many hours, as may be done by dancing, hopping, running, riding, etc. The following case is reported: A man had the usual signs of cholelithiasis and was sick for about a week. He was then directed to jump, when it was observed on the day following that the feces became colored with bile. A second attack in the same patient was similarly relieved.—*Münchener med. Wochenschrift*, September, 1, 1891.

The abortive treatment of cholelithiasis is best accomplished, according to **Dr. Sticker** (*Deutsche med. Zeitg.*), by the use of belladonna. The practical value of belladonna is shown in those cases where, after its use, gall stones have been found in the passages, unattended with colic; whereas, when opium is used to control the pain, it is rare to find calculi in the feces. Belladonna, when compared with opium, is less certain in its effects as an anodyne, but decidedly more curative. It paralyzes the sphincter muscular fibres of the ductus choledochus, and at the same time causes contraction of the gall bladder. It is best administered in the form of the infusion.—*Münchener med. Wochenschrift.*

Diagnostic Value of the Plasmodium of Malaria.—**Hertel** and **von Noorden** report two cases which demonstrate the diagnostic value of the *plasmodium malariæ*. One case was that of a woman who had drunk beer to excess and who suffered from violent pains in the stomach and vomiting. She had periodic returns of pain, attended by chills, followed by fever and sweating. The spleen was enlarged. The blood contained no plasmodium. Quinine was without effect. The continued absence of the plasmodium showed that the disease was not malarial; yet, otherwise, it appeared to be of that character. The nature of the case was eventually found to be one of developing pulmonary tuberculosis. In the second case, a man, 28 years of age, was admitted June 28, 1890. Up to the time of his sickness he was at work digging a trench, throwing up earth and laying water pipes. Eight days before admission he suffered with pain in the neighborhood of the navel and sacrum and was in a condition of stupor. On the 25th of June he had a chill, which recurred daily up to the time of admission. The chill, which usually came on in the morning, was accompanied by headache, stupor and disturbances, which disappeared gradually in the course of the afternoon, after a profuse sweat. The spleen was scarcely enlarged in breadth. Up to this time the examination showed a febrile affection, the cause of which was obscure. On the 30th of July there was a violent chill. Plasmodia were found in the blood, which made the nature of the disease at once clear. Quinine was given, and the patient was discharged, cured, July 14th. The authors maintain that the best results are attained in searching for the plasmodia by examining fresh, unstained preparations with an immersion lens at the bedside of the patient. If the blood cannot be examined in this way, cover-glass specimens can be made and stained with concentrated methyl-blue or malachite-green. Prepared in this manner, the plasmodia are stained pale-blue or greenish and stand out sharply. They cannot be confounded with anything else, whether they are inclosed in a blood corpuscle or free in the plasma. —*Berliner klin. Wochenschrift.*

The Number of Tubercle Bacilli in Tuberculous Sputum.—**Dr. Geo. H. F. Nuttall** (*Johns Hopkins Hospital Bulletin*) describes a method by which he has been able to make accurate estimates of the actual numbers of tubercle bacilli present in tuberculous sputum. The methods heretofore employed for this purpose are condemned as unscientific. In three cases undergoing the Koch treatment, observations on the number of bacilli in the sputum were made every few days. In the first case the patient expectorated 2,000,000,000 bacilli during the 24 hours. After inoculation with tuberculin the number rose to between 3,000,000,000 and 4,000,000,000. After the inoculations ceased the number fell to what it had been originally. Observations in the other two cases were somewhat similar. The accuracy of the method is shown by a number of test and culture experiments. Nuttall believes his method will prove valuable in any experiments where it is desirable to introduce a definite number of organisms into culture media, disinfectants, etc.—*New York Medical Journal.*

The Treatment of Pleuritic Exudations by Massage.—DR. P. POLIAKOW reports 10 cases of primary pleuritic exudations, 7 serous and 3 sero-fibrinous, which were benefitted by massage of the affected half of the thorax. The massage is conducted in the direction of the lymphatics, the strokes all converging toward the axillary space. The rubbings at first are slight, but must later be energetic. The sittings are daily, and last from 10 to 20 minutes. By this treatment exudations disappeared in from 8 to 20 days, whereas, the other symptoms of the disease lasted from 9 to 35 days longer. The action of massage of the thorax is that of a counter-irritant, which can be applied daily. The massage also relieves the thoracic pain, and increases the strength of the muscles, thus rendering the amplitude of thoracic movement greater, a condition which beneficially influences the absorption of the exudation and dilatation of the compressed lung.—*Wiener med. Presse.*

Angina Pectoris.—DR. R. DOUGLAS POWELL believes angina pectoris to be the expression of a disturbed innervation of the heart or vessels associated with more or less intense cardiac distress and pain, and a general prostration of the forces, always producing anxiety and often amounting to a sense of impending death. Considerable stress is laid on habitual high arterial tension as a factor in causation. The affection is not necessarily associated with coronary or other disease of the heart or vessels, although in fatal cases, disease or obstruction of the coronary arteries is the most frequent lesion found, after which, in order of frequency, come fatty degeneration, aortic dilatation, aortic regurgitation, and aneurism. The varieties of the affection are classified as follows: (1.) In its purer forms we observe disturbed innervation of the systemic or pulmonary vessels, causing their spasmodic contraction, and consequently a sudden extra demand on the propelling power of the heart, violent palpitations, or more or less cramp or paralysis ensuing, according to the reserve power and the integrity of that organ.—*Angina Pectoris Vasomotoria.* (2.) In other cases we have essentially the same mechanism, but with extra demand upon a *diseased* heart. —*Angina pectorsis gravior.* (3.) The trouble may commence at the heart through irritation or excitation of the cardiac nerves, or from sudden accession of anemia by the cardiac muscle from coronary disease.—*Primary cardiac angina.* (4.) In certain conditions of the blood (often gout), or under certain reflex excitations of the inhibitary nerves always, however, with a degenerate feeble heart in the back-ground. We may observe intermittence in its action prolonged to syncope.—*Syncopal angina.* Regarding treatment.—In group 1, nitrite of amyl; and still more nitro-glycerine are of great value, and may be combined with nervine tonics or sedatives, iron, zinc, valerian, bromides, etc. In groups 2 and 3, carminative stimulants, or digitalis with nitro-glycerine, are recommended, and of all tonics, arsenic, as a rule, is the best.—*American Journal of Medical Sciences.*

A New Treatment for Pulmonary Tuberculosis.—TRANJEN (*Berlin. klin. Woch.*, No. 16, 1891), recommends intramuscular injections of hydrargyrum thymolo-aceticum, with the internal use of iodide of potash. The theoretical deductions leading to this method of treatment are as follows: Tuberculosis bears a certain clinical, anatomical and bacteriological resemblance to syphilis. The tubercle bacillus possesses certain characters similar to the bacillus of syphilis and glanders. The investigations of Koch show that inoculations made with the tubercle bacilli on tubercular animals, will not develop a new tubercular ulcer, a fact which recalls an analogy between tuberculosis and syphilis. The mercurial preparation is administered according to the following formula:

℞. Hydrargyri thymolo acet. 0.75
Paraffini liquidi .... 10.0—M.
tere exactissime.
S.—For subcutaneous injection.

With this mixture a hypodermic syringeful is injected into the gluteal muscles every 7 to 10 days. After the second or third injection the patient is given:

℞. Kalii iodid. 5.0
Aq. destillat. .... 200.0—M.
S.—Tablespoonful 3 times a day.

Febrile patients receive the latter prescription only after disappearance of the fever. The results of treatment are as follows: (1) In incipient phthisis, decided benefit was observed, which, if it continued, would result in cure. (2) In cases not too far advanced, decided benefit in the subjective and objective symptoms was observed. (3) Even in advanced cases, no harm resulted from the injections.—*Therapeutische Monatshefte.*

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By A. W. HOISHOLT, M. D., Assistant Physician, State Asylum for Insane, Stockton, Cal.

Puerperal Psychosis.—PROF. OLSHAUSEN recommends the division of puerperal psychosis into three classes: (1.) Infection-psychoses, principally cases of puerperal pyemia and ulcerative endocarditis with a few rare cases of so-called septicemia. When three diseases lead to psychosis the direct cause is generally a meningitic or encephalitic affection, and especially capillary embelisms. (2.) The idiopathic form without general febrile disease. To this belong the greater number of the psychoses of pregnancy, lactation and child-bed, in which occasionly weakening factors, such as loses of blood, are the exciting causes. (3.) Psychosis of intoxication after eclampsia, or in exceptional cases from anemia without eclampsia. In 531 cases of eclampsia there were 31 psychosis or 6 per cent. Out of 200 consecutive cases of eclampsia occurring during 5¼ years, at the Berlin Klinick, there were 12 cases in primiparæ, and 5 in multiparæ. In several cases the psychosis was preceded by unusually long-continued eclamptic sopor; still the cases which terminated in insanity were not the most severe. The psychosie almost always began in the early part of child-bed, with hallucinations of sight and hearing, and generally had the character of hallucinatory insanity with unusually rapid termination in recovery. Among the above 31 cases, two only were cases of mania and two melancholia. It is of interest, symptomatically, that in a number of the cases the pulse and temperature reached an unusual height—160 and 102.4° F. without apparent cause. Therapeutically chloral, by the rectum, had the most quieting effect.—*Medical Press and Circular*, September 16, 1891.

Insanity, Blindness and Deaf-Muteism in Vienna.—At the end of 1890 a census was taken of the population of the Austrian capital, which showed that it contained 1,380,917 inhabitants, an increase of rather more than 23 per cent.

as compared with the enumeration made ten years before. The proportion of sexes was 51.63 per cent. of females to 48.37 per cent. of males. The number of persons suffering from mental and physical infirmity was 3,964, of whom 983 or 24.8 per cent. were blind; 980 or 24.7 per cent. were deaf and dumb; 1,627 or 41.04 per cent. were idiots or insane; and 374 or 9.44 per cent. were cretins. Of the whole number—3,964—53.13 per cent. were males and 46.87 were females. The excess of males holds good only as regards cases of deaf-muteism, insanity and idiocy. The cases of blindness are equally distributed between the sexes, while among the cases of cretinism there were 60.7 per cent. of females to 39.3 of males. On comparing these figures with those of the census of 1880, it will be seen that while blindness has diminished by nearly 10 per cent., and deaf-muteism has remained stationary, insanity and cretinism have increased by 32 per cent. This increase is greater in the female sex than in the male, in the proportion of 43.02 to 23.2 per cent. Of the 983 blind persons, only 21 or 6 per cent. were born blind. Blenorrhea neonatorum appears to have been the cause in 14 cases, small-pox in 11, other afflictions in 295 and injury in 17 cases. Of 381 deaf-mutes, not inmates of public institutions, 127 or 33.3 per cent. became deaf and dumb after birth. Of the cretins 63.4 per cent. are between 10 and 30 years of age. 31 per cent. are able to do ordinary household work.—*British Medical Journal*, August 29, 1891.

Psychoses in Childhood.—Dr. E. Doernberger reports a case of insanity, complicated with chronic morphinism, occurring in a child. When two years of age, up to which time the patient had been healthy, she was thrown down violently in a wagon by the horses bolting. Greatly terrified by this, she became delirious and feverish, remaining so for about ten days. Some months after this she was attacked with paroxysms of screaming and outbursts of maniacal laughter and incoherent singing. Some years later she suffered from acute headache for several weeks. In the course of a year or two, nocturnal terrors, with visual hallucinations of thieves and fire, developed, and her disposition became intensely excitable and violent. To quiet her, the parents commenced to give her injections at night of about ¼ gr. of morphine, gradually increasing the amount to ⅛ gr. six or seven times daily, without noteworthy improvement. Severe cephalalgia and palpitation ensued, together with frequent emesis, thirst, epistaxis and deranged intestinal action. When Dr. Doernberger examined the case the patient was 11 years old, emaciated, weak and languid, excitable, nervous and vicious; her memory was impaired; the pupils were contracted and sluggish. The morphine injections were at once discontinued, and decreasing doses of the alkaloid in potassium bromide solution were substituted, in addition to special hygienic measures. The withdrawal of the morphine was followed by phenomena of abstinence, with increased excitement and auditory and visual hallucinations, and the patient craved for an injection. The morphinism subsided after three months of this treatment, leaving the patient in the same mental condition as before. Placed in the care of her mother, the patient after a few months relapsed into morphinomania, injections having been given her again to relieve the pain in the head. Notwithstanding that the patient's father was of deficient intellect, her mother extremely nervous and addicted to the morphine habit, and that other neuroses abounded in the nearest relatives, Dr. Doernberger considers that the heredity in this case is not sufficiently established. He would rather attribute the insanity to cerebral abscess or meningitis, produced by the accident.—*Münch. Wochenschr.*—*British Medical Journal*, August 15, 1891.

Hyoscin Poisoning.—DR. ADLER has lately reported a case of accidental poisoning with muriate of hyoscin. The exact quantity of the drug taken was not known, but the amount was supposed to be more than fatal, as it stood in a glass as a sediment, in which a drink of water was taken by mistake. Fifteen minutes after it was swallowed dizziness came on, with gradual loss of consciousness. In an hour convulsions became general, followed by coma; the face became livid, pupils dilated and fixed and the pulse quick (145), very small and soft. The stomach pump was used, but no hyoscin could be detected in the fluid. Hypodermic injections of morphine were given, but the spasms continued. Five hours later an injection of pilocarpine was given, but no reaction resulted for three hours; then moisture began to appear on the lips and tongue. From this on the recovery was gradual. In eight hours after the injection of the drug the patient was able to speak, the pulse began to fall and convulsions ceased. On the following morning all that remained of the trouble was a slight weakness and some accommodation paresis.—*Centralblatt. f. Nervenh.*—*Journal of Mental and Nervous Disease*, September, 1891.

The Methodical Employment of Sulphonal in Mental Diseases.—DR. FORSTER reports having treated 56 patients of the Königslutter institution, with in all 9000 grammes of sulphonal. He found that the drug acted principally as a motor depressor. It seemed to quiet noisy and violent patients and made them less untidy in habits. The excitement thus quieted was such as occurred in the course of acute and chronic insanity, periodical and chronic mania, senile dementia, progressive paralysis, idiocy and epilepsy. Two grammes were generally sufficient, but as much as 4 grammes were sometimes given daily. The single dose was from 0.5 to 1 gramme. It was of special value in acute melancholia. Epileptic attacks were made less violent by it, though it did not cure the disease. The author observed two forms of disagreeable after-effects, called by him sulphonalismus. The first was a motor and sensory paresis, at first of the lower extremities, then of the tongue and upper extremities. The other form was a persistent somnolence combined with a more or less diminished cutaneous sensibility. The first was not dangerous, but the second required careful watching. Whenever the dose of sulphonal was reduced the symptoms disappeared quickly. The medicine did not as a rule affect the pulse, which remained regular and powerful; nor did it injuriously affect respiration or the urogenital system. Disturbances of the digestive tract were, however, observed, twice combined with an exanthematous eruption of the skin. Tolerance of the drug was never observed, so that, unlike morphine or opiates it can be discontinued at any time.—*Allg. Zeitsch. f. Psych. Bd. 47, Hft. 1, 1891.*

The Knee-reflex in Epilepsy.—DR. VASILIEFF has recently made a series of experimental investigations on the subject of the changes in the knee-tendon reflex exercised by epileptic attacks, and although he was not the first to observe this, he has added much to our knowledge on the subject. The investigations were carried on in the laboratory with the help of Marey's chronograph on dogs thrown into epileptic convulsions by electrization of the cerebral cortex. During the tonic period of the attack it was found to be impossible to excite the reflex, owing to the rigid state of all the muscles; in the succeeding clonic stage, however, the phenomenon was well marked. After a violent fit, accompanied by loss of consciousness, the tendon-reflex was usually either entirely absent or very deficient in strength, the change occurring within a few seconds at the latest after the clonic spasms had ceased. The length of time during which the reflex was absent varied from 1 to 12 minutes, and it did not regain its normal force for a good while; in some cases not for half an hour or more. Sometimes, however, after it had become normal, a temporary increase in the force of the reflex was observed. It has also been noticed that knee-reflex was absent in dogs, in which epileptiform fits had been produced by absinthe. Dr. Vasilieff thinks that these observations may be of value in diagnosing true from spurious epileptic attacks.—*Vratch—Times and Register*, September 19, 1891.

An Interesting Insurance Case.—A man 66 years of age, who was insured for the sum of £1,000 against death from accident, fell down on the frozen pavement two months before his death. He was severely bruised, and had melena three days afterwards. He continued to vomit and pass blood for about three weeks after the accident. These symptoms then ceased, but he died from exhaustion eight weeks after the fall; the cause of death, exhaustion from hemorrhage due to the fall, was certified to by two medical men. The patient, had, however, suffered from gastric symptoms, and malignant disease had been suspected. A *post-mortem* examination was therefore made, and it revealed a cancerous growth at the pylorus. The insurance company repudiating their liability after hearing the result of the *post-mortem* examination, the widow brought suit against them, and the medical men, who had given the certificate, maintained that the hemorrhage was not due to cancer but to the fall. The jury endorsed this view, and returned a verdict against the company. The insurance policy in this instance being one which must be renewed every year on the condition that the insurer declares that he is not the subject of any disease, the above verdict seems especially unfair.—*Medical Record.*

Environment and Heredity as Causes of Insanity.—DR. SAVAGE, in a paper upon this subject read at the meeting of the British Medical Association, expresses the belief that just as insanity depended upon surrounding conditions, so does its treatment; if these conditions were favorable the tendency would be towards health. He opposed the wide-spread notion, that nearly all insanity was due to neurotic heredity. Heredity was not everything; this was proved by insanity occurring largely among non-neurotic individuals. He believed that certain social conditions could cause brain degeneration; that criminals were made by surroundings as well as begotten. Surroundings produced habits; habits produced conditions of mind. An interesting case of heredity was brought forward by PROF. BENEDIKT, of Vienna, in the course of the discussion. In this case the neurosis in the offspring developed before that of the parent, who ultimately had general paralysis. Prof. Benedikt believed surrounding circumstances had a great influence even on the formation of bones, that the bones of the face changed in a great degree under the influence of psychic, moral and social conditions.—*British Medical Journal*, September 2, 1891.

Spinal Adynamia.—In a paper on this subject, PROF. BENEDIKT speaks of the differentiation of spinal weakness from paralysis and of its greater frequency among working people than is generally supposed. He points out that nature provides short muscles to lift heavy weights, and long ones to lift lighter weights to greater heights, so that in testing contractility it is necessary to test also the strength of the contraction; as it might be possible for muscles to make every movement, though there might be great loss of power, which might escape observation. In the cases he had seen, the knee-jerks were exaggerated, the pupil reflex unaltered and there was often vertigo.—*British Medical Journal.*

An Ordinance to Secure Legible Prescriptions.—The Austrian Minister of the Interior has recently issued an ordinance that the burgomasters of all communes must exercise strict supervision over the medical men practising within their jurisdiction in the matter of legibility of prescriptions. They are charged to see that every prescription is clearly and legibly written in all its parts, so that there may be no doubt as to the remedy, the dose, or the signature.—*Medical Age.*

FORMULÆ.

By Geo. B. Somers, M. D., San Francisco, Cal.

Dermatol.—Heine has used the following formulæ:

1.	Dermatol	20 parts
	Talcum	70 "
	Starch	10 "

S.—A diapasm for the feet.

2.	Dermatol	10 parts
	Collodion, flexible	20 "

For small wounds or sores.

3.	Dermatol	10–20 parts
	Glycerine	80–70 "

S.—Emulsion for gynecology.

4.	Dermatol	10–20 parts
	Vaseline	80–70 "
	Lanoline	10 "

S.—For indolent ulcers.—*Nouveaux Remèdes.*

Scabies.—(De Lollis.)

Creolin	ʒ i
Vaseline	℥ ii

S.—Apply once a day.—*Union Médical.*

Influenza.—After trying several methods of treatment, Long found that camphor gave better results than anything else. He prescribed:

Spt. camphor	ʒ ii
Tinct. lavand. co.	ʒ ii
Sp. chlorof.	ʒ i
Mucil. tragacanth.	℥ ii
Aq. ad.	℥ vi

S.—One ounce every four hours.—*British Medical Journal.*

Reliable Purgative Enema.—Dr. Noble writes in the *Medical News* that the following enema has given such satisfactory results, especially after operations on female pelvic organs, that he deems it worthy of note:

Sulphate of magnesia	℥ ii
Glycerine	℥ ii
Oil of turpentine	℥ ss
Water	℥ ii

S.—To be used as an enema.—*Medical Record.*

Phthisis.—Ruiz (*Gaceta Med. de Mexico*) reports a case cured in nineteen months by 1038 hypodermic injections of

Carbolic acid	4 parts
Glycerine	6 "
Water	50 "

One or two syringefuls were used at a time. No local lesions followed.—*Satellite.*

Diphtheria Prophylaxis.—In the New York Infant Asylum the following formula is used:

Ac. carbol.	℥ i
Ol. eucalypti	ʒ i
Spt. terebinth.	℥ viii

S.—Add two tablespoonfuls to a quart of water and keep boiling in the room occupied by the patient.—*Archives of Pediatrics.*

Phosphorus in Rickets.—Mettenheimer (*Jahrb. f. Kinderh.*) finds that the following mixture is best tolerated by the stomach:

Phosphorus	gr. $\frac{1}{5}$
Ol. menth. pip.	m. xx
Spt. eth. sulph.	℥ ss

S.—One drop daily, in syrup, sweetened water or milk; to be increased if possible.—*Archives of Pediatrics.*

Dysentery.—Dr. Green uses antiseptic irrigation of the bowels together with the following:

Carbon bisulphide ------- ʒ vi
Water ------------------ ℥ xvi
Spt. peppermint --------- gtt. xxx
Shake well and let settle.

S.—Eight or ten tablespoonfuls in milk or water several times a day.—*New York Medical Journal.*

Bromoform.—This drug has been much used in whooping cough. The following mixtures represent single doses for adults:

1. (Steep.)
Bromoform -------------- gtt. x
Alcohol ----------------- ʒ i
Simple syrup ------------ ʒ iiss
Distilled water ad. -------- ℥ iii

2. (Nauwelaers.)
Bromoform -------------- gtt. xx
Alcohol ----------------- ----
Mucil. acac. ------------ -
Syr. tolu. āā ------------ ℥ iss

—*Union Médical.*

Hemoptysis.—Bamberger is said to have approved of the following mixture:

Turpentine -------------- ʒ i
Oil sweet almonds -------- ʒ i
Mucil. acacia ------------ ʒ iv
Simple syrup ------------- ʒ iv
Distilled water ----------- ℥ v

S.—One teaspoonful every half hour. *St. Louis Med. and Surg. Journal.*

To Remove Hair.—Dr. Van Allen uses:

Powdered air-slaked lime -- ʒ i
Orpiment (As_2S_3,) -------- gr. ii
Add enough water to make paste.

S.—Apply a quarter of an inch thick, allow to remain fifteen minutes, then remove. Repeat at intervals of a few days until the hair does not return.—*Medical Record.*

PUBLIC HEALTH.

By W. R. Cluness, M.A., M.D., Sacramento, Cal.

Mortality.—The deaths registered in 108 town districts of the State during the past month, in a population of 741,736, correspond to an annual rate of 17.88 a thousand, the total mortality having been 1,106. 107 deaths were due to zymotic diseases, giving an annual rate of 1.73 a thousand. Of these, 35 were due to diphtheria, 27 to typhoid fever, 18 to diarrhea and dysentery, 14 to cholera infantum, 5 to scarlet fever and 4 each to whooping cough and cerebro-spinal fever. 299 deaths resulted from diseases of the respiratory organs, giving an annual rate of 4.84 a thousand. Of these 178 were due to consumption, 76 to pneumonia, 39 to bronchitis and 4 to pulmonary congestion; the rate being for consumption and pneumonia 2.87 and 1.22, respectively. 83 deaths resulted from diseases of the heart. The average annual death rate from all causes, occurring in the ten largest cities and towns in the State, and representing a population of 512,918, was 19.32 a thousand. The highest rate for the month, occurring in cities having a population of 10,000 or more inhabitants, was reported from San Jose, the lowest from Santa Ana and vicinity.

METEOROLOGY.

By J. W. Robertson, B.A., M.D., San Francisco, Cal.

Summary for November.—*Temperature.*—Unusually warm and pleasant weather is reported from all stations. The mean temperature ranged from 55° to 60°, with a minimum average of 45°. The difference between the temperature of the coast and valley belts was slight.

Rainfall.—A deficiency of rainfall is reported from all stations. In many localities no rain fell, while, except on the northern coast, the rainfall did not exceed one inch. An unusual number of clear and fair days were also reported.

California—Tabular Statement for November, 1891.

STATIONS.	TEMPERATURE.						RAINFALL.		Mean Relative Humidity	WEATHER.			WIND.	FURNISHED BY—
	Mean	Highest	Lowest	Mean Highest	Mean Lowest	Mean Daily Range	No. of Days Rain Fell	Total Rainfall		No. of Clear Days	No. of Fair Days	No. of Cloudy Days	Prevailing Direction.	
Auburn ....Cal.	57.8	82.0	41.0	----	----	----	----	0.95	----	----	----	----	S.W.	Southern Pacific Company.
Berkeley......... "	56.6	74.0	42.0	67.2	50.8	16.4	4	1.01	76.0	21	4	5	S.W.	Obs. University of California.
Colfax............ "	53.8	76.0	36.0	----	----	----	----	1.06	----	----	----	----	N.	Southern Pacific Company.
Eureka........... "	52.4	72.0	36.0	58.2	46.6	11.6	15	2.72	92.0	9	10	11	N.	Weather Bureau Dept. Agr.
Fresno........... "	56.2	81.0	34.0	70.0	42.5	27.5	1	0.21	59.0	20	9	1	N.W.	" " "
Keeler. .... "	54.2	73.0	35.0	65.1	43.3	21.8	0	0.00	41.0	19	1	10	E.	" " "
Los Angeles.... "	61.2	85.0	40.0	74.8	47.6	27.2	0	0.00	73.0	20	10	0	W.	" " "
Monterey .... "	54.3	82.0	32.0	----	----	----	----	0.19	----	----	----	----	S.	Southern Pacific Company.
Napa.............. "	52.4	71.0	32.0	63.2	41.5	21.7	3	0.60	73.0	21	4	5	S.	Station Napa Insane Asylum.
Oakland .... "	57.0	80.0	34.0	68.8	45.0	23.8	5	0.55	87.0	18	7	5	N.W.	Chabot Observatory.
Paso Robles.... "	50.7	79.0	23.0	----	----	----	----	0.00	----	----	----	----	S.	Southern Pacific Company.
Red Bluff....... "	57.0	79.0	36.0	68.5	45.2	23.3	6	0.46	62.0	19	7	4	N.W.	Weather Bureau Dept. Agr.
Sacramento. .... "	55.9	77.0	34.0	68.2	43.6	24.6	4	0.48	67.0	22	6	2	N.	" " "
San Bernardino "	58.0	86.0	31.0	----	----	----	1	Trace	----	22	8	0	W.	A. K. Johnson, M. D
San Diego....... "	59.2	82.0	44.0	68.4	50.3	18.1	2	0.10	74.0	22	6	2	N.W.	Weather Bureau Dept. Agr.
San Francisco.. "	58.6	78.0	47.0	65.6	51.5	14.1	5	0.56	76.0	23	3	4	W.	" " "
Santa Barbara.. "	58.8	82.0	41.0	69.1	48.5	20.6	0	0.00	70.0	22	5	3	W.	Hugh D. Vail.
Santa Cruz...... "	54.7	80.0	31.0	----	----	----	----	0.58	62.0	23	3	4	W.	W. R. Springer.
Yuma...........A. T.	65.0	92.0	36.0	81.0	48.0	33.0	0	0.00	37.0	28	2	0	N.	Weather Bureau Dept. Agr.

Blank (----) indicates data missing.

Occidental Medical Times

COMMUNICATIONS are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: JANUARY, 1892.

THE DIFFERENTIAL DIAGNOSIS OF INSANITY.

The examination in our courts of persons arrested on complaint of being insane is made with the view of determining whether or not such persons are sane. This is the practical idea of the medical examination, and all that the law exacts or cares for. It has often been said, why should the county have the extra expense of a medical examination, when the judge or almost any layman can tell whether or not a person is crazy? This current idea may be true of the typical form of acute mania and a few other types of insanity, but it is certainly not true of many of the more obscure forms of mental disease. Medical knowledge and experience are, however, not only necessary in these examinations to ascertain that the person examined is not sane, but also to determine whether the aberration of mind present be a real insanity, and not a temporary one caused by physical ailment. Such differential diagnosis requires a thorough observation by a well-informed medical examiner, who should make a most accurate physical examination, and investigate the circumstances leading to the development of the insanity (information not often obtainable in our courts), as well as the course of the disease.

Are the alleged cases of insanity in this State subjected to examinations of this character? It would seem not. The manner in which most commitment papers are filled out indicates haste and lack of thoroughness. In many instances the answer to the question, "State why you consider patient insane, giving as much of the medical history as can be obtained, describing the patient's conduct and peculiarities," is: "From personal examination and the testimony of witnesses." During the year 1891 three cases have been admitted to the Agnews Asylum, and four to the Stockton Asylum, in which the mental symptoms present were found to be sufficiently accounted for by existing physical disease. Two cases were croupous pneumonia with brain symptoms. One of these, committed from San Francisco, died 13½ hours after admission, the *post-mortem* examination revealing gray hepatization of both lungs. Two patients were suffering from uremia, one of whom was admitted in a totally unconscious condition, with high temperature, bounding pulse and edema of the lower extremities, and lived but ten hours after his arrival at the asylum. This patient had traveled from Mariposa, a distance of 100 miles, 40 miles of which were by stage, over rough mountain roads. One, a case of typhoid fever, was, when admitted, in a deep stupor, with high fever and quickened respiration, afterwards becoming very delirious and presenting symptoms of meningitis. The patient died eleven days after her admission. One was a case of cerebral hemorrhage of traumatic origin [MEDICAL TIMES, vol, v, p. 548], and one came to the asylum in a state of complete collapse, dying a few hours after admission.

In all cases of insanity the question arises, Do the psychopathic symptoms exist independently? Are they symptoms of those diseases of the brain which clinically are known as mental diseases? or are they only symptomatic—a part of a constitutional disease? In the latter instance we may have before us cases of fever-delirium, delirium of inanition, an intoxication, or some other cerebral disease. Insanity is most easily confounded with mental symptoms accompanying typhoid fever, chronic and particularly tuberculous, meningitis and forms of intoxication. In the above cases the mental symptoms were caused by fever-delirium, by a form of intoxication (uremia) and by traumatic injury to the brain. They should, therefore, not have been sent to an asylum; not only because the fact of having been there confined—and in these cases unnecessarily so—may become very unpleasant to the patient, if his health be restored, on account of the current popular ideas of insanity; but the exposure on the not unfrequently long trip to the asylum, as in the cases of pneumonia and uremia already mentioned, materially lessens the patient's chances of recovery.

THE COMMENCEMENTS.

The commencement exercises of Cooper Medical College were held in the auditorium of the college building, Friday evening, December 4, 1891. The degrees were conferred by the President of the college, PROF. L. C. LANE, and the valedictory address [published at p. 1] was delivered by PROF. R. H. PLUMMER.

The following are the names of the graduates: Harry Alta Andrews, George Blumer, Benjamin Franklin Burke, James Foster Christal, Melvin Sherman Coffman, Louis Charles Deane, Frank Fischer, B. A.; Richard Edward Gibson, Charles Francis Griffin, Edmond Louis Gros, Aden Gavins Hart, William Anthony Hershiser, Richard Irvine Howitt, Charles William Jones, Clarence William Kellogg, Sanzabro Kobyashi, Robert Joseph McGettigan, B. S.; Iga Mori, Arthur Aloysius O'Neill, Kate Overacker, William Calvin Riley, Emmet Rixford, B. S.; William Arthur Rowell, Edward Huxley Samuels, Ph. G.; Arthur James Sanderson, Evangeline Shelper, David Shoemaker, Josiah Adams Simpson, M. A.; Fenton Blakemore Whiting.

The total number of students in attendance during the past session was 148, the number of matriculates being ——.

The commencement exercises of the College of Dentistry, University of California, were held at Odd Fellows' Hall, on Wednesday evening, December 23, 1891. DR. LEANDER VAN ORDEN, JR., delivered the address on behalf of the faculty. The certificates of graduation were conferred by PROF. C. L. GODDARD, Chairman of the Faculty.

The following are the names of the graduates: Josephine Wright Armstrong, Charles Franklin Bauer, Charles Henry Bell, John Millard Blodgett, Cecil Corwin, D. Carter Elliott, Philip Foster Frear, Charles Lawrence Griswold, Charles George Hyde, Edwin Chandler Hyde, William Martin, John Patrick McCarthy, Charles Avan Meek, Albert D. E. Miles, Robert Forrester Millar, Robert Isaac Moore, Howard Deloss Noble, Forrest Hoy Orton, Frank Harry Phillips, Harry Griffin Richards, Harold Lawrence Seager, Harry Howard Shaw, George Newins Van Orden, Gustavus Adolphus Weyer.

The total number of students in attendance during the past session was 96, the number of matriculates being 26.

VOLUME VI.

With this number THE MEDICAL TIMES enters upon a new year and its sixth volume, in an enlarged form. The size of the printed page has been increased from 7x3⅞ inches to 7½x4⅛ inches, making a gain in reading matter equivalent to an addition of eight pages in small type of the old size. With due respect to a contemporary who has already taken us to task, we can safely assert that "this journal now presents more matter than any medical journal west of the Rocky mountains."

Beginning in a small but respectable way in 1887, the journal has been gradually enlarged and otherwise improved until it has attained its present position. In progressive medical journalism continued progress is the rule, and as opportunity offers THE MEDICAL TIMES will be

still further improved so as to render it more worthy of the liberal patronage it is now receiving.

With this issue the name of the editor has been removed from the editorial page. This, which is the rule in some of the oldest journals, has been done in order to remove any semblance of personality in the editorial expression of the journal, and also because leading articles are usually written by those most competent to treat the subject.

NOTES.

Dr. D. W. Montgomery, owing to the pressure of professional engagements, has retired from the position of active collaborator in the department of Dermatology.

Dr. Geo. B. Somers has been appointed Police Surgeon of San Francisco, an onerous and difficult position that we are satisfied he will fill to the satisfaction of the authorities.

Dr. Wm. Ellery Briggs.

Dr. Wm. Ellery Briggs, of Sacramento, is to be married on December 31st to Miss Grace Rideout, of San Francisco. The Doctor and his bride will leave on the first of the new year for an extended trip to Europe, where he will visit the principal medical centres in connection with his specialty. The Medical Times, in congratulating the Doctor, wishes him every happiness and prosperity.

Fatal Case of Arsenical Poisoning.

A very unfortunate double fatality, through misadventure, recently occurred at Orange Vale, Sacramento county. According to the Folsom *Telegraph*, a Mrs. Z. T. Brandon prepared a quantity of biscuits, using, as she supposed, two heaping teaspoonfuls of baking powder, but which, unfortunately, proved to be arsenic. The arsenic was in a can standing close to one containing baking powder, the label and can being identical in both cases. The woman and her husband ate heartily of the biscuit, two of the children also consuming some, though more sparingly. The eldest son, who had been sick, did not partake of the meal. The characteristic symptoms of arsenical poisoning were soon manifested, and though medical assistance was promptly summoned, Mr. and Mrs. Brandon died in a few hours, after great suffering. The two children, in whose case the quantity ingested was smaller, survived. The matter vomited by the victims was thrown into the yard, and was there eaten by some chickens, who died shortly after. A girl named Oleta Sager narrowly escaped being poisoned. She was invited to partake of the meal, and was only saved by seeing a truant cow for which she had been searching, and which demanded her immediate attention before she could eat of the fatal biscuits. The arsenic had been employed in taxidermy, and the quantity of the drug used in the food was not less than 520 grains.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting, November 24, 1891.

The President, J. H. PARKINSON, in the Chair.

Dr. Mary J. Magill.—The committee appointed upon the death of a late member presented its report [MEDICAL TIMES, vol. v. p. 686], which was ordered spread upon the minutes.

Rush Monument Fund.—A letter from DR. A L. GIHON, Chairman of the Rush Monument Committee, was read, in which he thanked the Society for its contribution and pointed out the fact that if every society in the country would follow the example a magnificent monument might be raised.

Extensive Burn Destroying Entire Circumference of Skin of Forearm.—DR. T. W. HUNTINGTON exhibited photographs of a case of severe burn of the forearm and under surface of arm involving the entire circumference of the former. The injury occurred in February, 1890, and the photographs were taken in June of the same year. The Thiersch method of skin-grafting had been employed.

Compulsory Notification of Contagious Diseases by Physicians Under Penalty and Without Compensation. In the absence of the regular paper this subject was introduced and discussed at length by the Society, the concensus of opinion being that the present city ordinance embodying the foregoing provisions was wrong in principle, unjust in practice, and possessed the inherent weakness of failing to protect the public by leading to concealment of disease. On motion the subject was referred to a committee for consideration.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting, November 24, 1891.

The President, D. W. MONTGOMERY, M. D., in the Chair.

New Members.—The following were duly elected members of the Society: H. SANDERSON, M. D., R. L. REGDON, M. D., WM. A. MARTIN, M. D., SAM'L TAGGLE, M. D., B. F. CLARK, M. D.

Election of Officers.—The following were elected officers for the ensuing year:

President	D. W. MONTGOMERY.
First Vice President	H. M. SHERMAN.
Second Vice President	H. H. HART.
Recording Secretary	C. C. WADSWORTH.
Assistant Recording Secretary	G. W. DAYWALT.
Corresponding Secretary	L. M. F. WANZER.
Treasurer	W. S. WHITWELL.
Librarian	D. W. MONTGOMERY.
Trustees	H. GIBBONS, JR., W. F. MCNUTT, JAMES SIMPSON.
Committee on Admissions	H. H. HART, G. FRINK, G. F. SHIELS, JAS. S. WILLIAMSON, G. W. DAYWALT.
Committee on Ethics	J. SIMON, H. W. YEMANS, F. Z. BAZAN, J. MCDONALD, F. D'EVELYN.
Committee on Finance	H. M. SHERMAN, ST. GEO. GRAY, T. J. LE TOURNEUX.
Committee on Publication	C. C. WADSWORTH, D. W. MONTGOMERY, G. W. FULLER.
Executive Committee	C. G. KENYON, L. BAZET, H. L. WAGNER.

A Year's Work in Abdominal Surgery.—Dr. W. H. Mays read a paper, giving a detailed description of 12 operations involving the peritoneal cavity, and representing a year's work in abdominal surgery, at St. Luke's Hospital. Of the 12 cases, 4 were ovariotomies, 4 oöphorectomies, 1 hysterectomy, 1 for pelvic abscess, 1 for removal of umbilical hernia, and 1 for extensive matting of the bowels. With the exception of the woman with matting of the bowels, who died from exhaustion, the patients all recovered and give good subsequent histories as far as known. Of the 4 cases classed as oöphorectomies, in each there was gross disease of ovary and tube. In each the disease was of long standing, having resisted months, and in some instances years, of treatment, both general and local. The unilateral operation was done in each case, only one appendage being removed. A subsequent oöphorectomy had to be done in one instance, however, the disease returning in the remaining ovary. A certain amount of nausea is to be expected after anesthesia, but when it is prolonged and obstinate, it becomes a complication of great seriousness. It searches out the weak places from which to renew a hemorrhage, strains the stitches and ligatures, disturbs the abdominal contents when they ought to be immobilized, and breaks down the barrier of protective lymph that nature endeavors to throw around intraperitoneal lesions. After the woman is put back to bed, the stomach should be let entirely alone. As a rule, nothing should be taken into it for the first 10 or 12 hours. It is bad practice to administer from the outset sips of cold water or pieces of ice, to gratify the patient's demands, for there is no absorption, and the vomiting is invariably aggravated thereby. The nausea is best met by giving it nothing to feed upon. Later on a teaspoonful or two of hot water, or hot milk, with a little lime-water added, may be given at intervals of half an hour. Next morning, half a cup of hot weak tea or hot milk will prove grateful, and some chicken broth the following day. In elderly women, or when great exhaustion is present, nutrient enemata will be required. By thus strictly curtailing the ingesta for the first 24 hours, another important end is promoted—absorption by the peritoneum. The peritoneum is a rapid absorber, if it has the right kind of fluid to work upon. Some of the water will remain behind after flushing the cavity, and we may also expect more or less sanguineous oozing from the raw surfaces. These adventitious fluids, if aseptic, the serous membrane may be relied on to take care of; they will, in fact, supply in part the demands of the system for liquids. There is no doubt even that the contents of simple cysts are often harmless, and are taken up by the peritoneum. The majority of the 12 above described laparotomies were done under chloroform. His early teaching was all in favor of ether, and ether was the agent used almost exclusively in ovariotomies and other abdominal work prior to two years ago. But looking back it seemed to him that his patients now rally more quickly, and gather strength better for the fight that is before them than they did after ether. Under chloroform, the asphyxiation is not so profound, and elimination proceeds more rapidly. There is no doubt that it gives us a more complete relaxation of the abdominal walls. He thought it less productive of after-vomiting—a very great advantage. On the other hand, it has been answerable for many more fatalities than has its rival. We must admit the force of this fact. It brings and holds the patient closer to the death line than ether does. Everything depends on the chloroform-giver. As Dr. McNutt remarked the other day, the man who gives ether ought never to give chloroform, and *vice versa*. With the chloroform in the hands of one accustomed to its use, who is cautious and skilful and ready for every emergency, there can be no question as to which is the better anesthetic.

Dr. W. F. McNutt said that Dr. Mays was to be congratulated upon the number of recoveries; he was struck with the number of operations for diseases of the tubes, and that the cases justified the operation. He was satisfied that very few men that were in the habit of giving ether should give chloroform.

Dr. St. Geo. Gray would like to ask Dr. Mays if any of the cases were done with the patient in Trendelenberg's position.

Dr. Charlotte B. Brown agreed with some eminent English authorities that the saving of one ovary was not attended with any advantage in a great many cases, and observation had taught her that in young girls who had suffered from typhoid fever at puberty, that the ovary becomes diseased and often both are involved. The condition can be described as a thickened capsule. Some times this condition exists to the depth of a quarter of an inch. She did not think a woman could become pregnant; in fact she had never seen a case where a woman became pregnant after the removal of one ovary. She also wished to ask Dr. Mays if he ever used opium in these cases, and she was sure that where there was kidney troubles that chloroform was the best anesthetic, and also that no one should be allowed to adminster anesthetics except those that had been trained to that branch of practice.

Dr. W. Watt Kerr said it struck him as very strange that the use of chloroform was advocated when he had been taught that ether should be used in such cases. In Europe, the same person that administered chloroform never administered ether. When chloroform is given it should be administered on a napkin, held well away from the face. He did not believe in the A. C. E. mixture, but if chloroform was being used and ether was wanted, that the change should be made, but they should be given unmixed. In reply to an inquiry as to the cause of the danger of ether in renal diseases, he said the theory was that the quantity of ether required was much larger than when chloroform was used, and the quantity necessarily eliminated by the kidney was greater.

Dr. H. W. Yemans said that in a case where chloroform had produced almost complete collapse, he had administered 3 minims of a 1 per cent. solution of nitro glycerine hypodermically, and had given as much as 5 minims with satisfactory results. The same remedy was good in cases of gas asphyxiation.

Dr. Mays, in replying, said that he had not operated in any of these cases with the patient in Trendelenberg's position. He did not advise the removal of the second ovary unless decidedly pathological. Morphine is apt to produce vomiting, and the straining tends to disturb the dressings and stitches. At St. Luke's the nitrite of amyl is used to stimulate, when necessary, in giving chloroform, and the battery is always at hand.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, October 21, 1891.

Walter S. Thorne, M. D., in the Chair.

Radical Cure of Hernia.—**Dr. G. F. Shiels**, in introducing this subject for discussion, said the term "radical" was, he thought, one which should be dropped from the vocabulary of scientific surgeons of to-day, and he would suggest in its place the "surgical treatment" of hernia in contradistinction to the "mechanical treatment" of hernia. The experience of others added to his own would seem to justify this change in nomenclature. The more one reads and the more one operates, the more does one notice that almost inevitably the condition necessitating the operation recurs at the same place, or at one of the other favorite points of hernial protrusion. He would explain this on the ground that hernia is not a purely local disease, but that it is due to some alteration in the intra-abdominal pressure not yet understood, but leading to what might almost be called a hernial diathesis or tendency. He alluded to this particularly in connection with an article by Lawson Tait, appearing in a recent number of the *British Medical Journal*, in which that author stated dogmatically that the only radical cure of hernia was to be brought about by opening the abdominal cavity in the median line, drawing up the hernial contents from within, and stitching the margins of the internal ring together. This operation did not seem to the speaker to show any particular advantage over the other known procedures. Though it would no doubt be an excellent one were a hernia to be present in a patient suffering from some other condition necessitating abdominal section. Were adhesions present, or the hernial contents strangulated, this procedure would, in his opinion, be difficult if not positively dangerous.

Dr. J. F. Morse said he had reported a number of cases bearing on this subject. The question simply resolves itself into what we consider a radical cure; whether it means cured for a certain length of time or permanently cured. Of course, this opens a large field for discussion. One of the best modern articles on this subject is in the "Reference Hand-book of Medical Sciences," where it is stated that there is no positive radical cure for hernia; that we cannot tell a patient a cure will be an absolute certainty after operation, especially if the occupation predisposes to a return of the trouble. The operation of Lawson Tait, mentioned by Dr. Shiels, was not Tait's, but that of a famous Vienna anatomist, Zuckercandl. He was not a surgeon, but suggested this procedure some four or five years ago. The majority of the radical cures attained were the result of violent inflammation and inflammatory adhesions. The first one to suggest, and to carry out, the union of the pillars was Prof. Gross; and it was further perfected by Prof. Czerny, of Heidelberg. The Zuckercandl operation is too tremendous an undertaking for a thing that can be relieved by little interference or lesser operations. Injections of alcohol into the sac as far as the margin of the internal ring were reported a few years ago. There were permanent cures in a stated period. This was all the fashion till several cases of peritonitis and death were recorded. In a recent case of hernia one might entertain the idea of performing Tait's operation, but if there was an epiplocele the danger would be great and no prognosis could be made. Regarding this diathesis, Lawson, in his work on hernia, describes various conditions which render persons prone to hernia. He describes a peculiar belly, a sort of hanging belly, or one shaped so that the intestines hang forward, all the weight coming on the most vulnerable portion of the abdominal wall. Excessive fat in the omentum results in the formation of lipomata, which lodge first in the fossæ on the inner side of the abdomen. They grow and their weight gradually draws down the contents of the hernia. Again, a similar growth of the cord or outside of the abdomen may possibly drag on the peritoneum sufficiently to make a sac. This is denied by some, and to others the old theory of the relaxed abdominal wall and pressure is insufficient. A hernia may come on in the strong and after no exertion. Thousands of cases of flabby abdomen exist and no hernia ever occurs, and cases are reported where hernia came on during sleep. The causes, doubtless, are many.

Dr. F. W. d'Evelyn said that the cure might be permanent as far as strangulation was concerned. All cases seem to divide themselves into two classes—traumatic and pathological. We may have a pathological condition and abnormal pressure, and if the pressure internally increases, and there is a loss in the resiliency of the tissues, these are gradually undermined and give way. Practical demonstration has shown where there has been one hernia, and this operated upon, all care being taken, it would return either at the spot or near it. There seems to be an abnormal disposition of the abdominal muscles. He had seen cases where a plug was made of the sac, and the patient by wearing a truss got along very well.

Dr. L. Robinson said he had some experience in this line. He thought that such a pathological condition as a hernia diathesis might exist, but a hernia generally returns at the former site by the absorption of the skin and cicatricial tissue after an operation. He believed that Wood's (or the Wood-Gross) operation was the one generally used. He saw no advantage in Lawson Tait's operation, and believed as Dr. Morse did, that if it were an epiplocele he would find it very difficult to draw the protruded tissue back into the cavity. He did not believe that it was Tait's operation, as Tait told the truth only by accident.

Dr. A. T. Leonard said that recently he had seen a man who had been operated upon seven years ago by Dr. Murphy. It was a success so far, as there has been no return of the hernia, and the man is a "vaquero."

The President said a congenital predisposition would be pathological. For 15 years he was connected with an institution where there were many herniæ, the majority being inguinal. He had observed that it was far more frequent in those persons who had thin abdominal walls, and rarely that he found fatty walls and belly and a hernia. He would like to ask Dr. Shiels if a man endeavored to lift 1,000 pounds, and became ruptured, would he consider the abdominal wall as being pathological?

Dr. Shiels said he had not used the word "diathesis;" he had used the word "predisposition," an abnormal intra-abdominal pressure. He would consider the case mentioned by the President as directly traumatic. Herniæ frequently reappear in different parts. In one case where he had operated the sac was 8 or 10 inches long; a thorough operation was performed, and soon after a hernia appeared on the opposite side, pressure was applied and then it appeared at the umbilicus. He had tried all the different operations, and the result was more or less of a return. There is a disposition towards rupture. True, he had operated with no return, but he could not tell how soon it might occur. He believed we should not use the term "radical" before a patient, as an absolute meaning will be attached to it, and the result will be disappointing. A hernia should not be interfered with unless it became dangerous to life. In Lawson Tait's operation any pulling on prolapsed intestine, especially if congested or undergoing gangrene in strangulated hernia, would be most liable to rupture the bowel. Taken as a whole, he considered Tait's operation was worse than stupid. Even if there were only adhesions, one could not pull the bowel up into the abdomen. In his opinion it is best to stick to the outside operation. In reply to an inquiry, the speaker stated that four of his cases were operated on four years ago. One died of pneumonia. In the other three the hernia had since returned. In one case where he operated upon a strangulated femoral hernia, he cut down on the hernia, returned the sac, stitched through Gimbernat's ligament, also through Poupart's, and some of the falciform process. The wound was left open to granulate, a light bandage being worn, but within a few months the hernia was back again. He had not employed a truss, as if this be used the operation is not a radical cure. The mention of a truss to patients was very depressing, as they often sought an operation for the purpose of getting rid of the apparatus.

ALAMEDA COUNTY MEDICAL ASSOCIATION.

Regular Meeting, November 10, 1891.

Dr. D. D. Crowley read a paper on "The Diagnosis of Wounds of the Intestine by Hydrogen Gas, with a New Method of Locating the Wound after Opening the Abdomen" [published at p. 24].

Dr. C. A. Buckell thought the use of an antiseptic solution in conjunction with hydrogen gas would be a most valuable means of quickly ascertaining the position of an intestinal wound. She believed that it was an original method.

Dr. H. N. Miner had not heard of fluids being used for locating wounds in the intestines, and considered that it might be a valuable adjunct to the use of hydrogen gas.

Dr. Adams had not read of the use of water in this direction, and believed it to be an important factor in intestinal surgery.

Dr. A. J. Russell thought it to be simple, original and practical, if the inflated condition would not interfere considerably with submerging the intestines.

Dr. Crowley, in replying, stated that, even when the intestines were inflated, by gentle pressure they could be pressed below the level of the abdominal wound; that if the inflation was marked and caused any embarrassment, the rectal and stomach tube aids materially in relieving the distention; also, that where a wound existed in the intestine, that organ being collapsed above and below, the wound would never rise to the level of the abdomen.

REVIEWS AND NOTICES.

The Physician's Visiting List for 1892. (Forty-first year.) Philadelphia: P. Blakiston Son & Co.

This favorite visiting list is complete with the usual accompanying data. An extended experience in its use has brought us to regard it as the best in the market.

Medical Review Visiting List (Perpetual). St. Louis: J. H. Chambers. Price, post-paid, 75 cents.

This List, in addition to a variety of useful information, contains a table of signs showing how to keep a visiting account, the use of which will, we understand, render the list available for production in Court as a book of original entry.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At a meeting of the Board of Examiners, held December 1, 1891, the following physicians, having compiled with the law and the regulations of this Board, were unanimously granted certificates to practise medicine and surgery in this State:

Atwell, F. S., Corralitos; Long Island Hosp. Coll., June,'83.
Adams, W. L., San Francisco; Med. Dept. Tulane Univ., La., April 1,'90.
Bryant, E. A., Los Angeles; Univ. of Pennsylvania, May 1,'90.
Comings, L. B., Coronado; Bellevue Hosp. Med. Coll., N. Y., March 1,'65.
Caldwell, G. W., Los Angeles; Med. Dept. Univ. of Denver, Col., April 15,'91.
Dana, F. P., San Diego; Dartmouth Med. Coll., N. H., Nov. 13,'84.
Fernandez, M. G., San Francisco; State Examination, City of Brella, Mex., March 29,'90.
Fowler, C. C., Los Angeles; Univ. of Pennsylvania, May 1,'89.
Golden, J., Oleander; Univ. of Michigan, March 31,'69.
Hertzstein, Morris, San Francisco; Frederick Wilhelm Univ., Berlin, July 31,'91.
Iglick, Samuel, Sierra City; Columbus Med. Coll., Ohio, Feb. 25,'88.
Ingersol, J. F., San Francisco; Queen's Univ., Canada, March 23,'63.
Martin, C. H., Tiburon; Med. Dept. Univ. of Denver, Col., March 26,'85.
McMurdo, J. R., San Francisco; Med. Dept. Univ. of California, Nov. '91.
Newell, W. H., San Francisco; Med. Dept. Univ. of Pennsylvania, March 17,'59.
Preston, W. H., San Francisco; Rush Med. Coll., Ill., Feb. 22,'81.
Read, J. B. A. H., Stockton; Med. Dept. Univ. of Vermont, July 5,'90.
Sprague, F. R., San Francisco; Women's Med. Coll. of Pennsylvania, May 6,'91.
Sims, J. M., San Francisco; Med. Dept. Univ. of California, Nov. 10,'91.
Sapp, C. E., San Francisco; Med. Coll. of Ohio, Cincinnati, Feb. 27,'75.
Sanford, Paul, Pleasanton; Kentucky School of Medicine, Ky., June 30,'91.

CHAS. C. WADSWORTH, Secretary

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific), from November 20, 1891, to December 20, 1891.

Acting Assistant Surgeon D. S. Moncrieff, now at Fort Walla Walla, Wash., will report in person to the Medical Director of the department at these headquarters, on the 30th inst., for annulment of contract. Par. 1, S. O. 193, Dept. of the Columbia, Nov. 20, 1891.

Upon recommendation of the Medical Director of the department, the contracts of Acting Assistant Surgeons Tenison Deane and A. F. Steigers will be annulled this date. Par. 1, S. O. 117, Dept. of California, Nov. 30, 1891.

Acting Assistant Surgeon Alonzo F. Steigers is hereby assigned to duty at Alcatraz Island, Cal. Par. 1, S. O. 118, Dept. of California, Dec. 1, 1891.

Capt. R. W. Johnson, Assistant Surgeon, will accompany Co. G, 24th Infantry, now under orders to change station from San Carlos, A. T., to Fort Bayard, N. M., and there report to commanding officer of that post for duty, as directed in Par. 3, S. O. 245, c. s. Par. 3, S. O. 149, Dept. of Arizona, Dec. 3, 1891.

Leave of absence for one month, to take effect upon arrival at Fort Apache of Assistant Surgeon Maus from leave, is granted 1st Lieut. Philip G. Wales, Assistant Surgeon, with permission to apply to the proper authority for an extension of one month. Par. 1, S. O. 149, Dept. of Arizona, Dec. 3, 1891.

In accordance with the provisions of Par. 1662, as amended by G. O. 38, series 1890, Lieut. Col. Charles C. Byrne, Surgeon, Medical Director, will proceed to Fort Townsend, Wash., and inspect the medical department at that post. Upon completion of this duty Surgeon Byrne will return to these headquarters. Par. 1, S. O. 204, Dept. of the Columbia, Dec. 12, 1891.

By direction of the President, Major Julius H. Patzki, Surgeon, will report in person to the President of the Army Retiring Board, at Fort Leavenworth, Kansas, for examination by the Board.

Capt. Henry G. Burton, Assistant Surgeon, ordered to report to the President of the Army Retiring Board, at Los Angeles, Cal., for examination by the Board. On conclusion of his examination, will return to his station, San Diego Barracks, Cal.

First Lieut. Paul Shillock, Assistant Surgeon, is relieved from duty at Fort Yates, N. D., and ordered to Fort Grant, Arizona, for duty.

First Lieut. Wm. N. Suter, Assistant Surgeon, is relieved from further duty at Fort Grant, Arizona, and assigned to duty at Fort Bowie, Arizona.

The leave of absence granted Capt. Robert R. Ball, Assistant Surgeon, is extended one month.

Official List of Changes in the Medical Corps U. S. Navy (Pacific Station) from November 20, 1891, to December 20, 1891.

Surgeon Manley H. Simons, to U. S. S. "Mohican."
Surgeon William Martin, to U. S. S. "Thetis."
Assistant Surgeon George B. Wilson, from U. S. S. "Thetis," ordered home and granted two months' leave.
Past Assistant Surgeon Frederick A. Hesler, from U. S. S. "Charleston," to U. S. S. "Alliance."
Assistant Surgeon George Rothganger, from U. S. S. "Charleston" to U. S. S. "Marion."
Past Assistant Surgeon Thos. A. Berryhill, from U. S. S. "Marion" to U. S. S. "Charleston."
Assistant Surgeon J. E. Page, to U. S. S. "Iroquois."
Assistant Surgeon Chas. F. Stokes, from U. S. S. "Iroquois" to U. S. Naval Hospital, Mare Island, Cal.

ITEMS.

Dr. G. W. Davis has removed from 431 Geary street to 629 Sutter street, San Francisco.

Chloride of Silver Dry Cell Battery Co.—In our issue of November, 1891, containing a notice of the "Lord Baltimore" pocket faradic battery, the former name of the firm (John A. Barrett Battery Co.) was erroneously given. The price of the battery was also incorrectly stated to be $6 00, instead of $6 50.